STATE OF OHIO
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOLOGICAL SURVEY
Horace R. Collins, Chief

Information Circular No. 50

5.00

ANALYSES OF OHIO COALS, 1977-1978

by

George Botoman
and
David A. Stith

Columbus
1981

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ABSTRACT

Standard coal analyses and 71 major, minor, and trace element analyses are reported for 315 coal samples collected in 1977 and 1978.

INTRODUCTION

Environmental concerns over the burning and other types of utilization of Ohio's coal resources continue to grow in importance. In order to meet these concerns it is vital that as much information as possible be developed and made available to all potential users of Ohio coal. Standard chemical and physical analyses such as proximate and ultimate analyses, calorific value, free-swelling index, and plastic properties are always useful in traditional coal utilization such as metallurgical and steam coals. Major, minor, and trace element analyses will be key factors in predicting and planning future uses of coal such as coal conversion.

The cooperative program of coal sampling and analysis begun in 1975 (Botoman and Stith, 1978) was resumed in 1977. This report presents the results for field samples collected in 1977 and 1978 and for a deep-core project conducted at the same time (Couchot and others, 1980). Samples were collected by Ohio Department of Natural Resources, Division of Geological Survey personnel. Standard coal analyses were performed by the Coal Analysis Section, U.S. Department of Energy, and major, minor, and trace element analyses were done by the Branch of Analytical Laboratories, U.S. Geological Survey.

ANALYTICAL METHODS

The analytical procedure followed for these samples is shown in figure 1 (Charles Oman, written commun., 1979). The major difference between this procedure and the one followed for the 1975 samples (Botoman and Stith, 1978) is the number of elements now determined by neutron activation analysis of the whole coal. There were no changes in the procedures for the standard coal analyses. Control of the U.S. Bureau of Mines lab was transferred to the U.S. Department of Energy, but the analyses and methods remained the same standard Bureau of Mines procedures (Office of Coal Research, 1967). The major, minor, and trace element analyses performed by the U.S. Geological Survey were all done at the Reston, Virginia, lab. The wet chemical procedures (fig. 1) are quantitative; the remaining methods are considered semiquantitative.

During the latter part of 1980 the U.S. Geological Survey reported a change in procedure for the thorium analyses. This method was changed from delayed neutron activation to instrumental neutron activation, and all samples previously reported were recalculated on this basis. Table 7 lists the recalculated whole-coal thorium content for all samples in this report as well as those previously reported (Botoman and Stith, 1978; Couchot, and others, 1980).

ACKNOWLEDGMENTS

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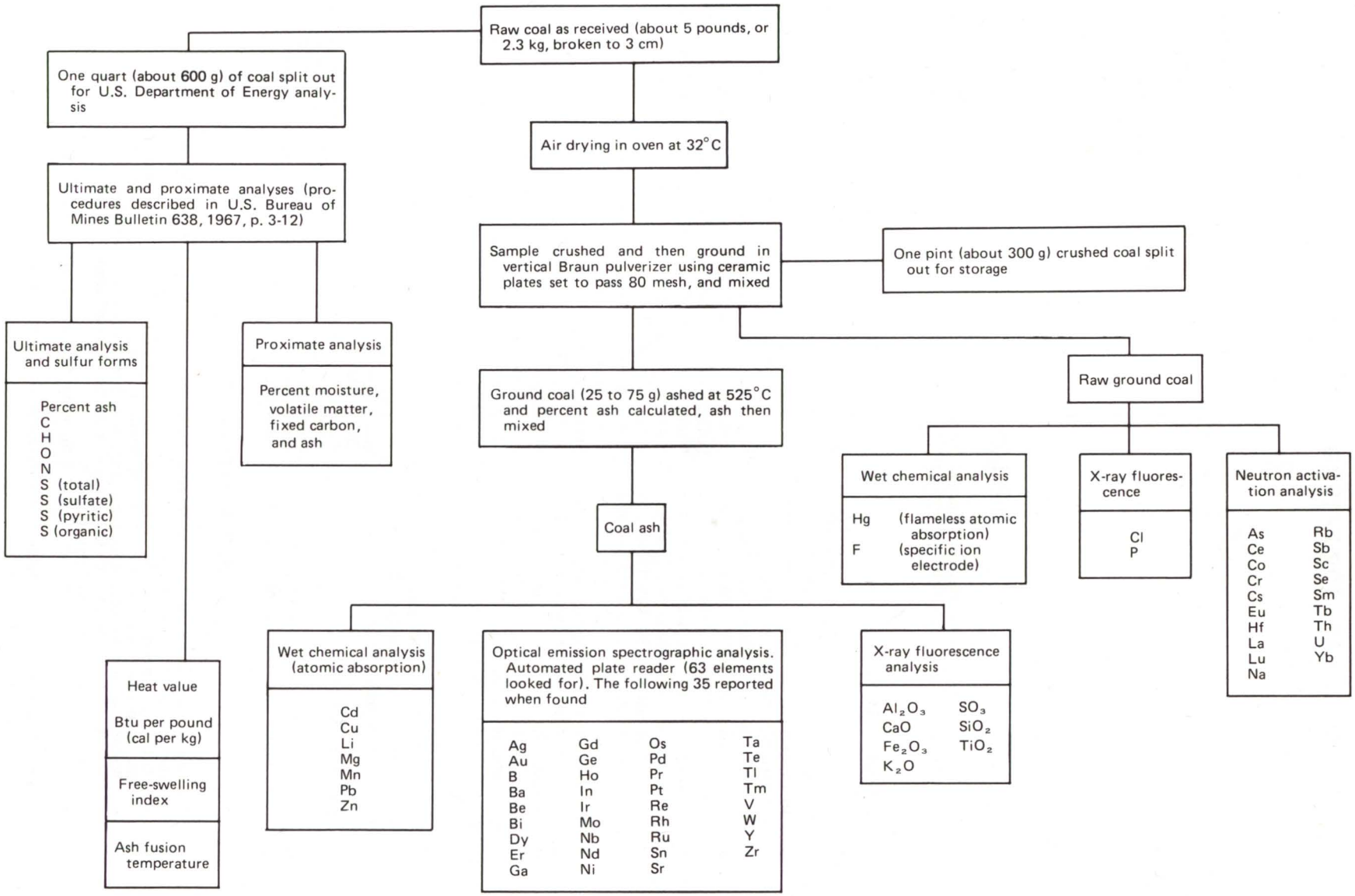

FIGURE 1.–Flow chart showing sequence of sample preparation and chemical analysis (Charles Oman, written commun., 1979).

TABLE 1.–*Proximate-ultimate coal analyses by county*

Key to symbols by column:

OGS file no.:

3- or 4-digit number - production bench or whole-bed channel or core sample; taken in conformity with Holmes, 1911; Fieldner and Selvig, 1938

-1, -2, -3 - samples taken in benches or from roof or floor coal

Kind:

1 - channel (underground mine)
2 - channel (strip mine)
3 - core

Condition:

2 - as received
3 - moisture-free
4 - moisture- and ash-free

Analyzed thickness:

[1] - upper bench, not complete thickness
[2] - complete bed
[3] - middle bench of file no. 841
[4] - 29 and 15 inches of coal separated by file no. 878-1
[5] - section of coal and shaly bone coal between two benches of file no. 878
[6] - uppermost bench of coal and shale

Source of all analyses is U.S. Department of Energy.

Township	Seam	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
ATHENS COUNTY																							
Alexander	Pittsburgh (No. 8)	914	2	2	49	6.6	40.3	40.5	12.6	5.2	61.3	1.0	13.8	6.2	0.82	2.17	3.19	1910	1950	1990	3.0	11,040	77
				3			43.2	43.3	13.5	4.8	65.6	1.0	8.5	6.6	0.88	2.32	3.42					11,820	
				4			49.9	50.1		5.6	75.8	1.2	9.9	7.7	1.02	2.69	3.95					13,650	
Bern		913	2	2	56[1]	4.8	41.5	37.5	16.2	4.9	60.4	1.0	12.0	5.5	0.70	2.47	2.34	2300	2330	2360	5.0	10,680	77
				3			43.6	39.3	17.1	4.6	63.5	1.1	8.1	5.8	0.74	2.59	2.46					11,220	
				4			52.6	47.4		5.5	76.5	1.3	9.7	7.0	0.89	3.13	2.96					13,530	
York	Middle Kittanning (No. 6)	873	2	2	96	7.6	36.0	46.5	9.9	5.5	66.2	1.4	15.6	1.4	0.03	0.71	0.62	2405	2515	2605	1.0	11,690	77
				3			38.9	50.4	10.7	5.1	71.6	1.5	9.6	1.5	0.03	0.77	0.67					12,650	
				4			43.6	56.4		5.7	80.2	1.7	10.7	1.6	0.03	0.86	0.75					14,160	
		873-1	2	2	44	9.9	35.6	48.6	5.9	5.5	67.4	1.4	18.5	1.1	0.05	0.56	0.51	2415	2505	2605	1.0	11,990	77
				3			39.5	53.9	6.6	4.9	74.9	1.6	10.8	1.2	0.05	0.63	0.56					13,310	
				4			42.3	57.7		5.3	80.1	1.7	11.5	1.3	0.06	0.67	0.60					14,240	
		873-2	2	2	34	7.7	34.7	47.0	10.6	5.2	65.2	1.4	15.9	1.6	0.02	1.14	0.49	2455	2555	2650	1.0	11,560	77
				3			37.6	50.9	11.5	4.8	70.7	1.5	9.7	1.8	0.02	1.23	0.53					12,530	
				4			42.5	57.5		5.4	79.9	1.7	11.0	2.0	0.02	1.39	0.60					14,160	
		873-3	2	2	18	5.5	39.0	42.6	12.9	5.3	65.2	1.4	13.3	1.9	0.04	1.26	0.59	2255	2355	2455	1.0	11,680	77
				3			41.3	45.0	13.7	4.9	69.0	1.5	8.9	2.0	0.04	1.34	0.63					12,350	
				4			47.8	52.2		5.7	79.9	1.7	10.4	2.3	0.05	1.55	0.73					14,300	
	Lower Freeport (No. 6A)	858	2	2	16	3.8	41.1	40.4	14.7	5.0	63.8	1.2	10.1	5.2	0.24	3.21	1.76	2140	2240	2540	5.0	11,320	77
				3			42.8	42.0	15.2	4.7	66.3	1.3	7.0	5.4	0.25	3.34	1.82					11,760	
				4			50.4	49.6		5.6	78.2	1.5	8.3	6.4	0.29	3.94	2.15					13,880	
		915	2	2	27	6.2	42.7	42.4	8.7	5.8	67.4	1.2	14.3	2.5	0.01	0.65	1.87	2410	2520	2610	4.5	12,210	78
				3			45.6	45.1	9.3	5.4	71.9	1.3	9.3	2.7	0.01	0.70	1.99					13,010	
				4			50.2	49.8		6.0	79.2	1.4	10.3	3.0	0.01	0.77	2.20					14,340	
BELMONT COUNTY																							
Colerain	Waynesburg (No. 11)	1042	2	2	33	3.8	34.1	42.4	19.7	4.9	60.5	0.6	9.5	4.8	0.14	3.71	1.00	2100	2210	2320	5.0	11,010	78
				3			35.4	44.1	20.5	4.6	62.9	0.6	6.4	5.0	0.14	3.86	1.04					11,440	
				4			44.5	55.5		5.8	79.0	0.7	8.0	6.3	0.18	4.85	1.31					14,380	
		1044	2	2	29	4.2	33.2	42.2	20.4	4.7	58.3	1.1	11.3	4.1	0.03	2.60	1.51	2060	2150	2250	4.5	10,720	78
				3			34.7	44.0	21.3	4.5	60.8	1.2	7.9	4.3	0.03	2.71	1.57					11,190	
				4			44.0	56.0		5.7	77.3	1.5	10.1	5.5	0.04	3.44	2.00					14,210	
	Washington (No. 12)	1041	2	2	69	4.0	34.2	40.3	21.5	4.7	60.0	0.7	11.6	1.5	0.01	0.65	0.82	2910	2910	2910	1.5	10,750	78
				3			35.6	42.0	22.4	4.5	62.5	0.8	8.4	1.5	0.01	0.67	0.86					11,190	
				4			45.9	54.1		5.8	80.5	1.0	10.8	2.0	0.01	0.87	1.10					14,420	
Flushing	Pittsburgh (No. 8)	1053	2	2	44	4.5	38.5	47.6	9.4	5.0	68.2	1.3	11.6	4.6	0.19	2.00	2.42	2120	2210	2320	5.0	12,380	78
				3			40.3	49.8	9.9	4.7	71.4	1.3	7.9	4.8	0.19	2.09	2.53					12,960	
				4			44.7	55.3		5.2	79.2	1.5	8.8	5.3	0.22	2.32	2.81					14,380	

		1053-1	2	2	27	3.8	36.8	44.9	14.5	4.9	63.9	1.3	11.3	4.3	0.16	2.43	1.67	2020	2110	2200	7.0	11,710	78
				3			38.2	46.8	15.0	4.6	66.3	1.4	8.3	4.4	0.16	2.53	1.74					12,160	
				4			45.0	55.0		5.5	78.1	1.6	9.7	5.2	0.19	2.97	2.05					14,310	
	Meigs Creek (No. 9)	1052	2	2	37	5.5	33.7	45.5	15.3	5.2	62.8	1.3	12.0	3.5	0.01	1.92	1.53	2000	2120	2210	5.0	11,380	78
				3			35.7	48.1	16.2	4.9	66.4	1.3	7.6	3.7	0.01	2.03	1.62					12,040	
				4			42.6	57.4		5.8	79.2	1.6	9.0	4.4	0.01	2.42	1.93					14,370	
Goshen	Upper Freeport (No. 7)	984	3	2	43	3.1	38.8	46.1	12.0	5.3	69.0	1.3	8.4	4.0	0.02	3.57	0.43	2090	2200	2310	5.0	12,570	78
				3			40.1	47.5	12.4	5.2	71.1	1.3	5.9	4.2	0.02	3.69	0.45					12,970	
				4			45.7	54.3		5.9	81.2	1.5	6.7	4.7	0.02	4.21	0.51					14,800	
	Pittsburgh (No. 8)	983	3	2	59	2.4	43.2	43.7	10.7	5.3	68.9	1.3	7.9	5.8	0.08	3.85	1.87	2100	2210	2300	5.0	12,660	78
				3			44.3	44.7	11.0	5.2	70.6	1.3	6.0	5.9	0.08	3.94	1.92					12,970	
				4			49.7	50.3		5.8	79.3	1.5	6.7	6.7	0.09	4.43	2.15					14,570	
	Fishpot	982	3	2	29	3.4	31.8	34.9	29.9	4.4	53.6	1.0	6.4	4.7	0.03	1.92	2.73	1955	2055	2145	5.0	9,680	78
				3			33.0	36.1	30.9	4.2	55.5	1.0	3.5	4.8	0.03	1.98	2.83					10,010	
				4			47.7	52.3		6.0	80.4	1.5	5.1	7.0	0.04	2.87	4.09					14,500	
	Meigs Creek (No. 9)	981	3	2	41	3.9	38.3	43.0	14.8	5.3	66.6	1.2	9.4	2.7	0.01	1.06	1.63	2170	2260	2350	5.5	11,930	78
				3			39.8	44.8	15.4	5.0	69.3	1.3	6.2	2.8	0.01	1.10	1.70					12,420	
				4			47.1	52.9		6.0	81.9	1.5	7.3	3.3	0.01	1.30	2.01					14,670	
		1040	2	2	49	3.6	39.1	48.3	9.0	5.3	70.8	1.3	10.6	2.9	0.02	0.99	1.93	2060	2150	2260	5.0	12,750	78
				3			40.6	50.0	9.4	5.1	73.5	1.4	7.6	3.0	0.02	1.02	2.00					13,230	
				4			44.8	55.2		5.7	81.0	1.5	8.4	3.4	0.02	1.03	2.20					14,590	
		1040-1	2	2	12	2.4	36.7	40.6	20.3	4.7	61.5	1.2	9.3	3.0	0.02	1.51	1.49	2210	2320	2410	5.0	11,230	78
				3			37.6	41.6	20.8	4.5	63.1	1.3	7.3	3.1	0.02	1.55	1.53					11,510	
				4			47.4	52.6		5.7	79.6	1.6	9.2	3.9	0.03	1.95	1.93					14,520	
Kirkwood		840	2	2	34	6.0	44.2	42.6	7.2	5.6	66.7	1.2	14.3	5.1	0.01	2.87	2.17	2080	2130	2300	3.0	12,240	77
				3			47.0	45.4	7.6	5.2	71.0	1.3	9.5	5.4	0.01	3.05	2.31					13,030	
				4			50.9	49.1		5.7	76.8	1.4	10.3	5.8	0.01	3.31	2.50					14,100	
		844	2	2	44	3.6	38.8	48.0	9.6	5.3	70.2	1.4	11.0	2.5	0.24	1.39	0.85	2155	2255	2355	5.0	12,590	77
				3			40.3	49.7	10.0	5.0	72.8	1.4	8.2	2.6	0.25	1.44	0.88					13,060	
				4			44.7	55.3		5.6	80.9	1.6	9.1	2.9	0.27	1.60	0.98					14,510	
Pease	Pittsburgh (No. 8)	1071	2	2	58	3.7	38.0	49.6	8.7	5.4	71.5	1.4	10.1	2.8	0.01	1.49	1.34	1960	2050	2160	6.5	12,810	78
				3			39.4	51.5	9.1	5.2	74.3	1.5	7.1	2.9	0.01	1.54	1.39					13,310	
				4			43.4	56.6		5.7	81.7	1.6	7.8	3.2	0.01	1.70	1.53					14,630	
		1071-1	2	2	18	2.9	33.3	42.5	21.3	4.7	58.8	1.1	7.7	6.5	0.02	5.67	0.78	2000	2120	2210	6.0	10,750	78
				3			34.3	43.8	21.9	4.5	60.6	1.2	5.2	6.7	0.02	5.84	0.81					11,080	
				4			43.9	56.1		5.8	77.6	1.5	6.7	8.5	0.03	7.48	1.03					14,190	
	Waynesburg (No. 11)	1045	2	2	31	4.1	31.8	41.8	22.3	4.5	58.0	1.2	10.1	3.9	0.18	2.28	1.46	2510	2620	2710	5.0	10,500	78
				3			33.1	43.6	23.3	4.2	60.5	1.2	6.8	4.1	0.18	2.37	1.52					10,950	
				4			43.2	56.8		5.4	78.8	1.6	8.8	5.3	0.24	3.09	1.99					14,270	
	Washington (No. 12)	841	2	2	72[2]	2.0	29.7	33.2	35.1	3.9	49.1	1.0	8.5	2.5	0.23	1.70	0.60	2800	2800	2800		8,770	77
				3			30.3	33.9	35.8	3.7	50.1	1.0	6.8	2.6	0.23	1.73	0.61					8,950	
				4			47.2	52.8		5.8	78.0	1.5	10.6	4.0	0.36	2.70	0.95					13,940	
		842	2	2	59[3]	4.3	34.5	41.8	19.4	4.7	60.2	1.2	10.4	4.1	0.06	2.58	1.45	2155	2255	2355	4.5	10,880	77
				3			36.0	43.8	20.2	4.4	62.9	1.3	6.9	4.3	0.06	2.70	1.51					11,370	
				4			45.1	54.9		5.6	78.8	1.6	8.7	5.4	0.08	3.38	1.90					14,250	

Township	Seam	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
BELMONT COUNTY (continued)																							
Pease (continued)	Washington (No. 12) (continued)	1043	2	2	66	4.2	29.8	38.0	28.0	4.3	54.0	1.0	10.6	2.0	0.04	0.96	0.96	2515	2615	2715	1.0	9,620	78
				3			31.1	39.7	29.2	4.0	56.4	1.1	7.2	2.0	0.04	1.00	1.00					10,040	
				4			43.9	56.1		5.7	79.6	1.5	10.2	2.9	0.06	1.42	1.42					14,180	
Smith	Waynesburg (No. 11)	1039	2	2	49	3.8	34.3	45.7	16.2	4.9	64.4	1.3	10.9	2.2	0.01	1.02	1.18	2555	2655	2745	4.5	11,580	78
				3			35.7	47.4	16.9	4.7	67.0	1.3	7.8	2.3	0.01	1.06	1.23					12,040	
				4			43.0	57.0		5.6	80.6	1.6	9.4	2.8	0.01	1.28	1.48					14,490	
Somerset	Lower Kittanning (No. 5)	977	3	2	33	2.5	39.5	45.0	13.0	5.3	68.7	1.3	7.3	4.4	0.05	1.61	2.73	2000	2080	2160	7.0	12,560	78
				3			40.5	46.1	13.4	5.1	70.5	1.3	5.2	4.5	0.05	1.65	2.80					12,880	
				4			46.7	53.3		5.9	81.3	1.5	6.0	5.2	0.06	1.91	3.23					14,870	
		979	3	2	37	2.9	41.0	45.9	10.2	5.4	71.6	1.3	8.7	2.8	0.01	1.13	1.62	2070	2190	2290	6.5	12,970	78
				3			42.2	47.3	10.5	5.3	73.7	1.3	6.3	2.8	0.01	1.17	1.66					13,360	
				4			47.2	52.8		5.9	82.4	1.5	7.1	3.2	0.01	1.30	1.86					14,920	
		979-1	3	2	14	2.7	27.6	29.2	40.5	3.9	45.6	0.8	7.1	2.1	0.01	1.18	0.93	2480	2590	2680	1.5	8,220	78
				3			28.4	29.9	41.7	3.7	46.9	0.8	4.8	2.2	0.01	1.21	0.95					8,450	
				4			48.6	51.4		6.3	80.4	1.4	8.2	3.7	0.02	2.07	1.64					14,490	
	Middle Kittanning (No. 6)	976	3	2	32	2.5	36.1	39.4	22.0	4.8	61.0	1.1	8.4	2.6	0.01	1.26	1.35	2470	2580	2660	6.5	11,140	78
				3			37.1	40.3	22.6	4.7	62.5	1.1	6.3	2.7	0.01	1.30	1.39					11,430	
				4			47.9	52.1		6.0	80.8	1.5	8.2	3.5	0.01	1.67	1.79					14,760	
		978	3	2	36	3.2	36.7	40.7	19.4	4.9	62.3	1.0	8.2	4.2	0.01	1.75	2.40	2040	2150	2230	4.5	11,370	78
				3			37.9	42.1	20.0	4.7	64.4	1.1	5.5	4.3	0.01	1.81	2.47					11,740	
				4			47.3	52.7		5.9	80.5	1.3	6.9	5.4	0.01	2.26	3.09					14,680	
	Lower Freeport (No. 6A)	975	3	2	43	2.5	41.9	44.6	11.0	5.5	70.5	1.4	8.0	3.5	0.01	2.91	0.60	2060	2150	2260	5.0	12,960	78
				3			43.0	45.7	11.3	5.4	72.3	1.4	6.0	3.6	0.01	2.99	0.62					13,290	
				4			48.5	51.5		6.1	81.6	1.6	6.7	4.1	0.01	3.37	0.70					14,990	
	Upper Freeport (No. 7)	974	3	2	48	3.7	39.1	44.3	12.9	5.0	68.2	1.2	7.5	5.2	0.01	4.21	1.01	2000	2100	2200	5.5	12,390	78
				3			40.6	46.0	13.4	4.8	70.8	1.2	4.3	5.4	0.01	4.37	1.05					12,870	
				4			46.9	53.1		5.5	81.8	1.4	5.0	6.3	0.01	5.05	1.21					14,870	
	Pittsburgh (No. 8)	973	3	2	51	3.5	38.7	45.3	12.5	5.2	67.5	1.2	9.0	4.7	0.04	3.25	1.40	1910	2000	2110	6.0	12,350	78
				3			40.1	47.0	12.9	5.0	69.9	1.3	6.1	4.9	0.04	3.37	1.45					12,800	
				4			46.1	53.9		5.7	80.3	1.4	7.0	5.6	0.05	3.87	1.67					14,700	
Union	Meigs Creek (No. 9)	1047	2	2	35	4.4	37.1	48.7	9.8	4.9	70.2	1.2	11.4	2.6	0.01	1.04	1.51	2160	2260	2350	4.5	12,500	78
				3			38.8	51.0	10.2	4.6	73.4	1.3	7.8	2.7	0.01	1.09	1.58					13,070	
				4			43.3	56.7		5.1	81.8	1.4	8.7	3.0	0.01	1.21	1.76					14,560	
		1048	2	2	52	3.3	39.0	46.3	11.4	5.2	68.2	1.2	10.8	3.1	0.01	1.05	2.08	2220	2310	2420	5.0	12,400	78
				3			40.4	47.8	11.8	5.0	70.6	1.3	8.1	3.2	0.01	1.08	2.16					12,830	
				4			45.8	54.2		5.7	80.0	1.4	9.2	3.7	0.01	1.23	2.44					14,550	
	Waynesburg (No. 11)	848	2	2	38	4.6	34.4	44.9	16.1	4.9	63.4	1.2	11.7	2.8	0.01	1.57	1.23	2190	2270	2490	4.0	11,350	77
				3			36.1	47.0	16.9	4.6	66.4	1.2	8.0	2.9	0.01	1.65	1.29					11,890	
				4			43.4	56.6		5.5	79.9	1.5	9.6	3.5	0.01	1.98	1.55					14,310	

		1036	2	2	21	5.3	34.3	46.9	13.5	5.3	65.4	0.6	12.2	2.9	0.01	1.21	1.70	2060	2170	2260	5.0	11,710	78
				3			36.2	49.6	14.2	4.9	69.1	0.7	7.9	3.1	0.01	1.28	1.79					12,370	
				4			42.2	57.8		5.8	80.6	0.8	9.2	3.6	0.01	1.49	2.09					14,430	
Warren	Lower Kittanning (No. 5)	986	3	2	29	2.3	42.5	41.9	13.3	5.2	67.3	1.3	8.4	4.4	0.02	2.62	1.76	1960	2080	2170	5.5	12,440	78
				3			43.5	42.9	13.6	5.1	68.9	1.3	6.5	4.5	0.02	2.68	1.81					12,720	
				4			50.3	49.7		5.9	79.8	1.5	7.6	5.2	0.02	3.10	2.09					14,730	
		986-1	3	2	6	2.9	27.5	26.4	43.2	3.6	41.6	0.7	6.3	4.6	0.02	2.26	2.32	2130	2240	2350	1.0	7,570	78
				3			28.4	27.1	44.5	3.4	42.9	0.7	3.9	4.7	0.02	2.33	2.39					7,790	
				4			51.1	48.9		6.0	77.2	1.3	6.9	8.5	0.04	4.19	4.30					14,030	
	Upper Freeport (No. 7)	980	3	2	38	3.1	38.2	48.3	10.4	5.3	70.7	1.3	9.0	3.3	0.01	2.52	0.73	1990	2100	2190	5.5	12,710	78
				3			39.4	49.9	10.7	5.1	73.0	1.3	6.5	3.4	0.01	2.60	0.75					13,110	
				4			44.1	55.9		5.7	81.7	1.5	7.2	3.8	0.01	2.91	0.84					14,680	
	Pittsburgh (No. 8)	1038	2	2	48	4.3	36.5	43.2	16.0	5.0	63.8	1.2	10.1	3.9	0.01	1.90	2.00	2300	2410	2500	5.5	11,530	78
				3			38.2	45.1	16.7	4.8	66.7	1.3	6.5	4.1	0.01	1.98	2.09					12,050	
				4			45.8	54.2		5.7	80.1	1.5	7.8	4.9	0.01	2.38	2.51					14,460	
	Meigs Creek (No. 9)	1037	2	2	39	3.6	37.3	47.5	11.6	5.1	67.3	1.3	10.7	4.0	0.01	2.06	1.89	2020	2110	2220	4.5	12,260	78
				3			38.7	49.3	12.0	4.9	69.9	1.4	7.7	4.1	0.01	2.13	1.96					12,720	
				4			43.9	56.1		5.6	79.4	1.5	8.8	4.7	0.01	2.42	2.23					14,460	
	Waynesburg (No. 11)	1034	2	2	38	4.5	33.4	41.7	20.4	4.6	58.9	1.1	11.8	3.2	0.01	1.75	1.44	2420	2510	2610	4.0	10,740	78
				3			35.0	43.7	21.3	4.3	61.8	1.1	8.2	3.4	0.01	1.83	1.51					11,250	
				4			44.4	55.6		5.5	78.5	1.4	10.4	4.3	0.01	2.32	1.92					14,300	
	Waynesburg A (No. 11A)	1035	2	2	13	4.5	27.2	33.5	34.8	3.9	46.2	0.8	10.7	3.6	0.01	1.82	1.81	2320	2410	2520	1.0	8,420	78
				3			28.5	35.1	36.4	3.6	48.4	0.8	6.9	3.8	0.01	1.90	1.89					8,820	
				4			44.7	55.3		5.6	76.2	1.3	10.9	6.0	0.02	2.99	2.97					13,860	
Washington	Brookville (No. 4)	988	3	2	29	1.8	41.2	44.5	12.5	5.4	69.8	1.3	8.7	2.3	0.01	1.24	1.08	2680	2780	2910	5.0	12,900	78
				3			42.0	45.3	12.7	5.3	71.1	1.3	7.2	2.4	0.01	1.26	1.10					13,140	
				4			48.1	51.9		6.1	81.4	1.5	8.2	2.7	0.02	1.44	1.26					15,050	
	Pittsburgh (No. 8)	987	3	2	91	1.9	43.8	45.3	9.0	5.2	70.8	1.2	9.2	4.7	0.10	1.79	2.82	2020	2160	2210	5.5	13,040	78
				3			44.6	46.2	9.2	5.0	72.2	1.2	7.6	4.8	0.10	1.83	2.88					13,300	
				4			49.1	50.9		5.6	79.5	1.3	8.4	5.3	0.11	2.01	3.17					14,640	
		987-1	3	2	25	2.7	37.5	41.5	18.3	4.8	61.8	1.1	7.6	6.5	0.01	5.31	1.15	1900	2010	2120	6.0	11,440	78
				3			38.5	42.7	18.8	4.6	63.5	1.1	5.3	6.7	0.01	5.46	1.19					11,760	
				4			47.4	52.6		5.7	78.2	1.3	6.6	8.2	0.01	6.72	1.46					14,480	
Wayne	Lower Kittanning (No. 5)	970	3	2	41	1.8	34.3	38.2	25.7	4.5	59.8	1.1	6.2	2.7	0.01	1.50	1.16	2910	2910	2910	6.5	10,870	78
				3			34.9	38.9	26.2	4.4	60.9	1.1	4.6	2.7	0.01	1.53	1.18					11,070	
				4			47.3	52.7		6.0	82.5	1.5	6.3	3.7	0.01	2.07	1.60					15,000	
	Middle Kittanning (No. 6)	969	3	2	37	2.3	37.7	41.0	19.0	4.8	62.4	1.1	6.5	6.1	0.03	3.41	2.64	1975	2065	2140	4.5	11,540	78
				3			38.6	41.9	19.5	4.6	63.9	1.1	4.5	6.2	0.03	3.49	2.71					11,810	
				4			47.9	52.1		5.8	79.4	1.4	5.6	7.7	0.04	4.33	3.36					14,670	
	Lower Freeport (No. 6A)	968	3	2	36	2.7	40.2	47.5	9.6	5.5	71.7	1.4	8.5	3.4	0.01	2.32	1.05	1950	2070	2170	6.0	13,110	78
				3			41.3	48.9	9.8	5.4	73.7	1.4	6.2	3.5	0.01	2.39	1.08					13,470	
				4			45.8	54.2		5.9	81.7	1.6	6.9	3.9	0.01	2.65	1.19					14,940	
	Pittsburgh (No. 8)	964	3	2	51	2.5	43.3	40.1	14.1	5.2	66.5	1.1	7.4	5.7	0.08	2.67	2.99	1940	2040	2130	6.0	12,130	78
				3			44.5	41.1	14.4	5.0	68.3	1.1	5.2	5.9	0.08	2.74	3.07					12,450	
				4			52.0	48.0		5.9	79.8	1.3	6.1	6.9	0.09	3.20	3.58					14,550	

Township	Seam	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
BELMONT COUNTY (continued)																							
Wheeling	Pittsburgh (No. 8) (continued)	1046	2	2	44	4.0	35.7	51.1	9.2	5.3	70.2	1.4	11.0	2.9	0.01	1.46	1.47	2010	2120	2210	4.5	12,740	78
				3			37.2	53.3	9.5	5.1	73.2	1.4	7.7	3.1	0.01	1.52	1.53					13,270	
				4			41.2	58.8		5.6	80.9	1.6	8.5	3.4	0.01	1.68	1.69					14,670	
	Meigs Creek (No. 9)	849	2	2	43	5.8	43.9	42.8	7.5	5.5	66.1	1.2	14.7	5.0	0.43	2.64	1.92	2005	2105	2205	4.0	12,230	77
				3			46.5	45.5	8.0	5.1	70.1	1.3	10.2	5.3	0.45	2.81	2.04					12,970	
				4			50.6	49.4		5.6	76.2	1.4	11.1	5.8	0.49	3.05	2.22					14,100	
		849-1	2	2	12	2.6	34.3	39.8	23.3	4.6	57.6	1.3	8.8	4.4	0.18	2.92	1.26	1095	1155	1210	5.0	10,530	77
				3			35.2	40.9	23.9	4.4	59.1	1.3	6.7	4.5	0.18	3.00	1.29					10,810	
				4			46.3	53.7		5.8	77.7	1.8	8.8	5.9	0.24	3.94	1.70					14,200	
		1050	2	2	49	3.0	40.7	45.1	11.2	5.2	68.6	1.3	10.1	3.6	0.01	1.46	2.17	2060	2140	2250	4.5	12,470	78
				3			42.0	46.5	11.5	5.0	70.7	1.3	7.7	3.8	0.01	1.50	2.24					12,850	
				4			47.5	52.5		5.7	79.9	1.5	8.7	4.2	0.01	1.70	2.53					14,520	
	Waynesburg (No. 11)	1049	2	2	43	12.8	29.2	42.8	15.2	4.7	54.9	1.1	23.3	0.7	0.01	0.14	0.59	2540	2650	2760		9,450	78
				3			33.5	49.1	17.4	3.8	63.0	1.3	13.6	0.8	0.01	0.16	0.67					10,840	
				4			40.6	59.4		4.6	76.3	1.6	16.5	1.0	0.01	0.19	0.82					13,120	
York	Pittsburgh (No. 8)	1059	2	2	56	2.3	39.5	47.4	10.8	5.0	68.9	1.2	9.1	5.0	0.02	2.70	2.30	2060	2150	2250	6.5	12,670	78
				3			40.4	48.6	11.0	4.8	70.6	1.3	7.2	5.1	0.02	2.76	2.36					12,970	
				4			45.5	54.5		5.4	79.3	1.4	8.1	5.8	0.02	3.10	2.65					14,580	
		1059-1	2	2	18	2.9	36.5	43.2	17.4	5.1	62.4	1.1	7.3	6.6	0.03	4.19	2.41	2060	2150	2250	3.5	11,420	78
				3			37.6	44.5	17.9	4.9	64.2	1.2	4.9	6.8	0.03	4.32	2.48					11,760	
				4			45.8	54.2		6.0	78.3	1.4	6.0	8.3	0.04	5.26	3.02					14,330	
	Fishpot	1060	2	2	18	4.6	32.7	42.3	20.4	4.6	58.8	1.1	11.5	3.6	0.02	1.42	2.16	2060	2170	2260	7.0	10,610	78
				3			34.3	44.3	21.4	4.3	61.6	1.1	7.8	3.8	0.02	1.49	2.27					11,130	
				4			43.7	56.3		5.5	78.4	1.4	9.9	4.8	0.03	1.90	2.88					14,160	
	Meigs Creek (No. 9)	1051	2	2	23	3.6	38.6	44.1	13.7	4.8	66.6	1.2	9.4	4.2	0.11	1.89	2.23	2060	2140	2260	4.5	12,000	78
				3			40.0	45.7	14.3	4.6	69.1	1.2	6.4	4.4	0.11	1.96	2.31					12,450	
				4			46.7	53.3		5.3	80.6	1.5	7.5	5.1	0.13	2.29	2.69					14,520	
COSHOCTON COUNTY																							
Bethlehem	Lower Kittanning (No. 5)	1123	2	2	22	4.3	42.0	43.4	10.3	5.4	65.8	1.4	11.1	6.0	0.09	3.64	2.32	2060	2150	2260	4.0	12,190	78
				3			43.9	45.3	10.8	5.2	68.8	1.4	7.6	6.3	0.09	3.80	2.42					12,740	
				4			49.2	50.8		5.8	77.1	1.6	8.5	7.1	0.10	4.26	2.72					14,280	
	Middle Kittanning (No. 6)	1124	2	2	34	13.0	35.4	47.4	4.2	5.7	59.9	1.5	26.9	2.0	0.04	0.52	1.40	2150	2240	2350		10,880	78
				3			40.7	54.5	4.8	4.9	68.9	1.7	17.6	2.2	0.04	0.59	1.61					12,520	
				4			42.8	57.2		5.1	72.4	1.8	18.4	2.4	0.04	0.62	1.69					13,140	
Franklin		1127	2	2	35	5.3	40.2	48.8	5.7	5.7	69.2	1.5	14.9	3.0	0.02	1.28	1.75	1915	2005	2100	5.0	12,820	78
				3			42.4	51.6	6.0	5.4	73.1	1.6	10.7	3.2	0.02	1.35	1.85					13,530	
				4			45.1	54.9		5.8	77.7	1.7	11.4	3.4	0.02	1.43	1.97					14,400	

Keene	Lower Kittanning (No. 5)	1112	2	2	29	6.1	37.6	43.6	12.7	5.4	60.9	1.3	12.5	7.1	0.50	4.26	2.34	2010	2100	2190	3.5	11,340	78
				3			40.1	46.3	13.6	5.0	64.9	1.4	7.5	7.6	0.53	4.54	2.49					12,080	
				4			46.3	53.7		5.8	75.1	1.6	8.7	8.8	0.62	5.25	2.89					13,980	
	Middle Kittanning (No. 6)	1113	2	2	30	16.3	33.7	41.7	8.3	5.6	56.4	1.3	26.5	2.0	0.10	0.68	1.17	2005	2120	2215		9,610	78
				3			40.3	49.7	10.0	4.5	67.3	1.6	14.3	2.3	0.12	0.81	1.40					11,480	
				4			44.7	55.3		5.0	74.8	1.7	15.9	2.6	0.13	0.90	1.56					12,750	
Lafayette	Lower Kittanning (No. 5)	1114	2	2	33	5.4	40.3	46.6	7.7	5.5	68.8	1.5	13.0	3.6	0.01	2.57	0.99	1950	2060	2150	4.5	12,540	78
				3			42.6	49.3	8.1	5.2	72.7	1.6	8.7	3.8	0.01	2.72	1.04					13,250	
				4			46.4	53.6		5.6	79.1	1.7	9.5	4.1	0.01	2.96	1.14					14,420	
	Middle Kittanning (No. 6)	1117	2	2	40	7.3	38.7	48.6	5.4	5.8	68.2	1.5	16.3	2.7	0.01	0.95	1.73	2000	2090	2200	1.0	12,080	78
				3			41.8	52.3	5.9	5.3	73.6	1.7	10.6	2.9	0.01	1.03	1.87					13,040	
				4			44.4	55.6		5.7	78.2	1.8	11.2	3.1	0.01	1.09	1.98					13,850	
Linton		1126	2	2	39	4.8	43.5	47.2	4.5	5.5	71.8	1.5	12.8	3.9	0.02	1.62	2.25	2050	2160	2250	4.0	13,120	78
				3			45.6	49.6	4.8	5.2	75.4	1.6	9.0	4.1	0.02	1.70	2.36					13,780	
				4			47.9	52.1		5.5	79.1	1.7	9.4	4.3	0.02	1.78	2.48					14,470	
Mill Creek	Lower Kittanning (No. 5)	1120	2	2	22	5.0	40.3	42.7	12.0	5.5	64.2	1.5	12.4	4.4	0.01	2.58	1.86	1960	2050	2160	4.5	11,800	78
				3			42.4	45.0	12.6	5.2	67.6	1.5	8.4	4.7	0.01	2.71	1.96					12,430	
				4			48.6	51.4		5.9	77.4	1.8	9.6	5.4	0.01	3.11	2.24					14,220	
		1121	2	2	35	4.7	39.6	41.1	14.6	5.3	60.6	1.3	11.5	6.5	0.06	4.67	1.82	1990	2100	2200	4.0	11,540	78
				3			41.6	43.1	15.3	5.1	63.6	1.4	7.7	6.9	0.06	4.90	1.90					12,110	
				4			49.1	50.9		6.0	75.1	1.7	9.1	8.1	0.07	5.78	2.25					14,300	
	Middle Kittanning (No. 6)	1119	2	2	23	6.7	39.2	51.1	3.0	5.3	72.5	1.7	15.7	1.8	0.01	0.72	1.08	2065	2155	2255	2.0	12,900	78
				3			42.1	54.6	3.3	4.9	77.7	1.8	10.4	1.9	0.01	0.77	1.16					13,830	
				4			43.5	56.5		5.0	80.3	1.8	10.7	2.0	0.01	0.79	1.20					14,300	
Oxford	Lower Kittanning (No. 5)	1116	2	2	35	5.0	40.7	46.6	7.7	5.5	69.3	1.4	12.7	3.3	0.01	1.67	1.58	2000	2110	2200	4.5	12,620	78
				3			42.9	49.0	8.1	5.3	72.9	1.5	8.7	3.4	0.01	1.75	1.66					13,290	
				4			46.7	53.3		5.7	79.4	1.6	9.5	3.7	0.01	1.91	1.81					14,470	
		1122	2	2	39	5.0	41.0	47.2	6.8	5.8	70.6	1.5	12.6	2.7	0.01	1.22	1.48	2010	2120	2210	3.0	12,820	78
				3			43.1	49.7	7.2	5.5	74.3	1.6	8.5	2.9	0.01	1.29	1.56					13,490	
				4			46.5	53.5		5.9	80.1	1.7	9.2	3.1	0.01	1.39	1.68					14,540	
	Middle Kittanning (No. 6)	1115	2	2	36	4.6	42.6	48.6	4.2	5.8	73.2	1.5	12.3	2.9	0.01	1.23	1.67	1940	2050	2140	5.0	13,250	78
				3			44.6	51.0	4.4	5.5	76.8	1.6	8.6	3.0	0.01	1.29	1.75					13,890	
				4			46.7	53.3		5.8	80.3	1.6	9.0	3.2	0.01	1.34	1.84					14,530	
		1118	2	2	35	6.1	40.3	50.1	3.5	5.8	71.3	1.6	15.5	2.3	0.01	0.99	1.31	2010	2120	2210	2.5	12,840	78
				3			42.9	53.4	3.7	5.5	75.9	1.7	10.7	2.5	0.01	1.05	1.39					13,670	
				4			44.5	55.5		5.7	78.8	1.8	11.1	2.6	0.01	1.09	1.45					14,200	
Tuscarawas		1111	2	2	36	5.1	40.7	49.4	4.8	5.7	71.8	1.5	13.7	2.6	0.03	0.83	1.71	2000	2090	2200	5.0	12,950	78
				3			42.9	52.1	5.0	5.4	75.7	1.6	9.6	2.7	0.03	0.88	1.81					13,650	
				4			45.2	54.8		5.6	79.7	1.7	10.2	2.9	0.03	0.93	1.90					14,370	
GALLIA COUNTY																							
Cheshire	Pittsburgh (No. 8)	880	2	2	37	5.9	42.1	42.1	9.9	5.2	65.2	1.1	14.9	3.7	0.09	1.70	1.89	2105	2210	2305	5.0	11,850	77
				3			44.7	44.8	10.5	4.8	69.2	1.2	10.3	3.9	0.09	1.81	2.01					12,590	
				4			50.0	50.0		5.4	77.4	1.3	11.5	4.4	0.10	2.02	2.24					14,080	
Clay		878	2	2	44[4]	6.1	38.3	44.9	10.7	5.3	64.8	1.2	14.5	3.6	0.34	2.02	1.22	1910	2015	2115	4.5	11,670	77
				3			40.7	47.9	11.4	5.0	68.9	1.3	9.6	3.8	0.36	2.15	1.30					12,420	
				4			46.0	54.0		5.6	77.8	1.4	10.9	4.3	0.41	2.43	1.47					14,020	

Township	Seam	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
GALLIA COUNTY (continued)																							
Clay (continued)	Pittsburgh (No. 8) (continued)	878-1	2	2	69[5]	4.4	25.8	27.3	42.5	3.7	39.5	0.8	10.7	2.8	0.05	1.80	0.98	2515	2615	2715	1.0	7,060	77
				3			27.0	28.5	44.5	3.3	41.3	0.8	7.1	3.0	0.05	1.89	1.02					7,380	
				4			48.6	51.4		6.0	74.5	1.4	12.7	5.3	0.09	3.40	1.84					13,300	
		878-2	2	2	12[6]	5.0	22.5	22.4	50.1	3.2	32.4	0.6	11.4	2.3	0.24	1.37	0.65	2755	2800	2800	0.5	5,660	77
				3			23.6	23.7	52.7	2.8	34.1	0.7	7.4	2.4	0.26	1.44	0.69					5,960	
				4			50.0	50.0		5.9	72.0	1.4	15.6	5.0	0.54	3.05	1.45					12,600	
	Redstone (No. 8A)	879	2	2	18	5.5	38.7	38.5	17.3	4.9	58.3	1.0	12.5	5.9	0.36	3.27	2.26	1905	2005	2110	3.0	10,710	77
				3			41.0	40.7	18.3	4.6	61.7	1.1	8.0	6.2	0.38	3.46	2.39					11,330	
				4			50.1	49.9		5.6	75.6	1.3	9.8	7.6	0.47	4.23	2.93					13,870	
Guyan	Pittsburgh (No. 8)	908	2	2	40	6.4	39.6	46.8	7.2	5.5	66.7	0.6	16.6	3.4	0.35	1.70	1.34	2020	2120	2590	3.5	12,050	77
				3			42.4	49.9	7.7	5.1	71.3	0.7	11.6	3.6	0.37	1.82	1.44					12,880	
				4			45.9	54.1		5.5	77.2	0.7	12.6	3.9	0.41	1.97	1.55					13,950	
	Redstone (No. 8A)	874	2	2	58	5.9	40.5	45.1	8.5	5.6	66.0	1.1	14.1	4.7	0.13	2.77	1.82	1905	2015	2115	4.5	12,070	77
				3			43.0	48.0	9.0	5.2	70.1	1.2	9.4	5.0	0.13	2.94	1.93					12,820	
				4			47.3	52.7		5.8	77.1	1.3	10.3	5.5	0.15	3.23	2.12					14,090	
Harrison	Pittsburgh (No. 8)	876	2	2	35	5.4	40.3	45.6	8.7	5.3	66.5	1.2	13.4	4.9	0.02	2.94	1.97	1915	2010	2115	4.5	12,090	77
				3			42.6	48.2	9.2	5.0	70.3	1.2	9.1	5.2	0.02	3.11	2.08					12,790	
				4			46.9	53.1		5.5	77.4	1.4	10.0	5.7	0.02	3.42	2.29					14,080	
	Redstone (No. 8A)	877	2	2	17	8.3	36.4	46.0	9.3	5.3	64.3	1.1	16.5	3.5	0.30	2.17	1.06	1955	2055	2160	2.5	11,460	77
				3			39.7	50.2	10.1	4.8	70.1	1.2	10.0	3.8	0.32	2.37	1.15					12,500	
				4			44.2	55.8		5.3	78.0	1.3	11.1	4.3	0.36	2.64	1.28					13,910	
Huntington	Middle Kittanning (No. 6)	898	2	2	75	6.8	35.3	46.2	11.7	5.2	64.0	1.1	15.8	2.2	0.21	1.18	0.84	2330	2430	2750	1.0	11,310	77
				3			37.9	49.6	12.5	4.8	68.6	1.2	10.5	2.4	0.23	1.27	0.90					12,130	
				4			43.3	56.7		5.4	78.5	1.4	12.0	2.7	0.26	1.45	1.03					13,870	
	Upper Freeport (No. 7)	1030	2	2	19	6.9	38.0	43.0	12.1	5.0	61.4	1.2	15.1	5.1	0.13	2.97	2.02	2060	2170	2260	1.5	11,170	78
				3			40.8	46.2	13.0	4.5	66.0	1.3	9.7	5.5	0.13	3.19	2.17					11,990	
				4			46.9	53.1		5.2	75.8	1.5	11.2	6.3	0.15	3.66	2.50					13,780	
Walnut	Middle Kittanning (No. 6)	1032	2	2	24	5.7	39.1	45.4	9.8	5.4	67.9	1.3	13.6	1.8	0.04	1.08	0.72	2420	2510	2600	1.0	12,060	78
				3			41.5	48.1	10.4	5.1	72.1	1.4	9.1	2.0	0.04	1.15	0.76					12,800	
				4			46.3	53.7		5.7	80.4	1.6	10.1	2.2	0.05	1.28	0.85					14,280	
	Redstone (No. 8A)	875	2	2	24	6.2	41.8	42.0	10.0	5.4	65.0	1.1	13.7	4.6	0.06	3.01	1.54	1905	2005	2115	4.5	11,890	77
				3			44.6	44.7	10.7	5.1	69.3	1.2	8.8	4.9	0.06	3.21	1.65					12,670	
				4			49.9	50.1		5.7	77.6	1.4	9.9	5.5	0.07	3.59	1.84					14,180	
GUERNSEY COUNTY																							
Cambridge	Upper Freeport (No. 7)	1103	2	2	44	6.6	35.5	54.3	3.6	5.9	73.4	1.5	15.0	0.7	0.01	0.16	0.48	2800	2800	2800	2.5	13,010	78
				3			38.1	58.1	3.8	5.5	78.6	1.6	9.7	0.7	0.01	0.17	0.51					13,930	
				4			39.6	60.4		5.7	81.8	1.6	10.1	0.7	0.01	0.18	0.53					14,480	
Center		1078	2	2	59	5.4	36.2	50.0	8.4	5.6	68.9	1.3	12.6	3.2	0.01	1.80	1.40	1940	2060	2180	4.0	12,500	78
				3			38.3	52.8	8.9	5.3	72.8	1.4	8.2	3.4	0.01	1.90	1.48					13,210	
				4			42.0	58.0		5.8	79.9	1.5	9.0	3.7	0.01	2.09	1.63					14,500	

		1104	2	2	70	5.9	35.9	52.3	5.9	5.7	71.8	1.4	13.4	1.8	0.01	1.05	0.76	2210	2320	2410	4.5	12,880	78
				3			38.2	55.5	6.3	5.3	76.3	1.5	8.7	1.9	0.01	1.11	0.81					13,690	
				4			40.8	59.2		5.7	81.4	1.6	9.3	2.1	0.01	1.19	0.86					14,610	
		1105	2	2	58	5.1	34.9	49.3	10.7	5.3	68.0	1.3	12.1	2.5	0.01	1.53	0.96	2160	2250	2350	4.0	12,230	78
				3			36.7	52.0	11.3	5.0	71.7	1.4	8.0	2.6	0.01	1.62	1.01					12,880	
				4			41.4	58.6		5.6	80.8	1.6	9.1	3.0	0.01	1.82	1.14					14,510	
	Anderson	1106	2	2	25	3.3	32.4	40.9	23.4	4.7	57.0	1.1	10.1	3.7	0.02	2.25	1.43	2120	2210	2300	3.5	10,450	78
				3			33.5	42.3	24.2	4.5	58.9	1.1	7.4	3.8	0.02	2.33	1.48					10,800	
				4			44.2	55.8		5.9	77.7	1.5	9.8	5.1	0.03	3.07	1.96					14,250	
Jackson	Upper Freeport (No. 7)	1107	2	2	67	5.7	36.3	52.4	5.6	5.7	72.5	1.6	13.1	1.5	0.01	0.54	0.94	2200	2320	2420	4.0	12,960	78
				3			38.5	55.6	5.9	5.3	76.9	1.7	8.5	1.6	0.01	0.57	0.99					13,750	
				4			40.9	59.1		5.7	81.7	1.8	9.1	1.7	0.01	0.61	1.05					14,610	
Millwood	Lower Kittanning (No. 5)	967	3	2	32	3.5	31.0	34.4	31.1	4.2	51.7	0.9	7.9	4.1	0.01	2.56	1.50	2050	2160	2240	4.0	9,460	78
				3			32.1	35.6	32.3	4.0	53.6	1.0	5.0	4.2	0.01	2.65	1.56					9,800	
				4			47.3	52.7		5.9	79.1	1.4	7.4	6.2	0.02	3.92	2.30					14,460	
	Middle Kittanning (No. 6)	965	3	2	34	3.1	35.3	37.8	23.8	4.6	55.7	1.0	7.4	7.5	0.46	4.63	2.41	1930	2010	2100	4.0	10,300	78
				3			36.4	39.0	24.6	4.4	57.4	1.0	4.8	7.7	0.48	4.77	2.49					10,630	
				4			48.3	51.7		5.8	76.2	1.3	6.4	10.3	0.63	6.33	3.30					14,090	
	Upper Freeport (No. 7)	966	3	2	41	4.1	31.4	37.6	26.9	4.3	52.7	1.0	8.8	6.3	0.16	4.14	2.00	2000	2100	2190	4.0	9,690	78
				3			32.7	39.2	28.1	4.0	54.9	1.0	5.3	6.6	0.16	4.32	2.09					10,110	
				4			45.5	54.5		5.6	76.4	1.4	7.4	9.1	0.23	6.00	2.90					14,050	
	Pittsburgh (No. 8)	845	2	2	52	3.2	30.1	35.2	31.5	4.2	51.2	1.0	9.6	2.4	0.23	1.62	0.59	2605	2715	2800	1.0	9,220	77
				3			31.1	36.4	32.5	4.0	52.9	1.1	7.0	2.5	0.23	1.67	0.61					9,530	
				4			46.0	54.0		5.9	78.4	1.6	10.4	3.7	0.35	2.48	0.91					14,120	
Oxford		850	2	2	38	3.7	38.7	46.1	11.5	5.2	67.0	1.3	10.1	4.8	0.24	2.67	1.94	2005	2100	2210	4.0	12,110	77
				3			40.2	47.8	12.0	5.0	69.5	1.3	7.1	5.0	0.24	2.77	2.01					12,570	
				4			45.7	54.3		5.7	79.0	1.5	8.1	5.7	0.28	3.14	2.28					14,280	
	Meigs Creek (No. 9)	1033	2	2	37	5.0	35.4	48.3	11.3	5.2	66.4	1.2	14.3	1.5	0.01	0.22	1.30	2620	2710	2910	1.0	11,790	78
				3			37.3	50.7	12.0	4.9	69.9	1.3	10.4	1.6	0.01	0.23	1.37					12,420	
				4			42.4	57.6		5.5	79.4	1.5	11.8	1.8	0.01	0.27	1.55					14,100	
Westland	Pittsburgh (No. 8)	1079	2	2	28	5.8	38.7	44.6	10.9	5.3	64.4	1.2	12.9	5.3	0.02	4.51	0.76	2000	2120	2210	4.5	11,840	78
				3			41.1	47.3	11.6	5.0	68.3	1.3	8.3	5.6	0.02	4.79	0.81					12,560	
				4			46.5	53.5		5.6	77.3	1.4	9.3	6.4	0.02	5.42	0.91					14,210	
Wheeling	Middle Kittanning (No. 6)	1125	2	2	29	6.4	40.2	50.6	2.8	5.9	71.6	1.6	15.9	2.2	0.04	0.66	1.42	2060	2150	2250	1.5	12,880	78
				3			42.9	54.1	3.0	5.5	76.5	1.7	10.9	2.3	0.04	0.71	1.57					13,760	
				4			44.2	55.8		5.7	78.9	1.7	11.3	2.4	0.04	0.73	1.62					14,180	
HARRISON COUNTY																								
Archer	Redstone (No. 8A)	1056	2	2	22	4.4	36.4	48.8	10.4	5.2	68.7	1.3	12.2	2.2	0.01	1.04	1.14	2400	2510	2600	5.5	12,380	78
				3			38.0	51.2	10.8	4.9	71.8	1.4	8.7	2.3	0.01	1.08	1.20					12,950	
				4			42.7	57.3		5.5	80.6	1.5	9.8	2.6	0.01	1.21	1.34					14,520	
Athens	Pittsburgh (No. 8)	838	2	2	51	6.9	37.4	47.2	8.5	5.3	66.0	1.2	16.3	2.7	0.02	0.57	2.11	2155	2260	2355	1.0	11,710	77
				3			40.1	50.8	9.1	4.8	70.9	1.3	11.0	2.9	0.02	0.61	2.26					12,580	
				4			44.1	55.9		5.3	78.0	1.4	12.1	3.2	0.02	0.67	2.49					13,840	
German	Harlem	1061	2	2	18	4.7	33.5	54.3	7.5	5.7	73.3	1.5	11.2	0.8	0.01	0.23	0.59	2060	2150	2270	5.0	12,920	78
				3			35.1	57.1	7.8	5.4	76.9	1.5	7.4	0.9	0.01	0.25	0.61					13,560	
				4			38.1	61.9		5.9	83.4	1.7	8.1	0.9	0.01	0.27	0.67					14,710	

Township	Seam	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
HARRISON COUNTY (continued)																							
German (continued)	Pittsburgh (No. 8)	1069	2	2	44	13.8	28.8	49.6	7.8	4.9	57.5	1.2	27.7	0.8	0.01	0.19	0.60	2320	2410	2500		9,430	78
				3			33.4	57.5	9.1	3.9	66.8	1.4	17.9	0.9	0.01	0.22	0.70					10,950	
				4			36.7	63.3		4.3	73.5	1.5	19.6	1.0	0.01	0.24	0.77					12,040	
Green		1062	2	2	57	4.6	35.4	47.9	12.1	5.2	68.3	1.3	10.7	2.4	0.04	1.06	1.31	2650	2760	2910	4.5	12,120	78
				3			37.1	50.2	12.7	4.9	71.6	1.3	6.9	2.5	0.04	1.12	1.37					12,700	
				4			42.5	57.5		5.6	82.0	1.5	7.9	2.9	0.05	1.28	1.57					14,550	
		1062-1	2	2	27	3.7	30.7	40.4	25.2	4.6	55.3	1.1	8.8	5.0	0.14	3.02	1.80	2055	2160	2260	4.5	10,060	78
				3			31.8	42.1	26.1	4.4	57.5	1.1	5.7	5.1	0.14	3.14	1.87					10,440	
				4			43.1	56.9		5.9	77.8	1.5	7.8	7.0	0.19	4.25	2.53					14,140	
	Redstone (No. 8A)	1063	2	2	18	7.3	34.1	49.5	9.1	5.5	68.5	1.4	14.8	0.8	0.01	0.19	0.62	2050	2160	2250	1.0	11,930	78
				3			36.8	53.4	9.8	5.1	73.9	1.5	8.9	0.9	0.01	0.21	0.67					12,880	
				4			40.7	59.3		5.6	81.9	1.6	9.8	1.0	0.01	0.23	0.74					14,270	
Moorefield	Pittsburgh (No. 8)	1054	2	2	57	6.6	36.2	44.9	12.3	5.4	65.3	1.3	12.5	3.2	0.02	1.86	1.35	2000	2110	2200	5.0	11,770	78
				3			38.7	48.2	13.1	5.0	69.9	1.4	7.2	3.5	0.02	1.99	1.44					12,590	
				4			44.6	55.4		5.8	80.4	1.6	8.3	4.0	0.02	2.30	1.66					14,500	
Nottingham		1055	2	2	43	3.8	39.3	46.5	10.4	5.3	67.9	1.3	10.4	4.7	0.02	2.37	2.32	2050	2150	2260	5.5	12,380	78
				3			40.9	48.3	10.8	5.0	70.6	1.3	7.3	4.9	0.02	2.47	2.42					12,870	
				4			45.9	54.1		5.6	79.2	1.5	8.2	5.5	0.02	2.77	2.71					14,430	
		1057	2	2	43	5.4	37.9	45.7	11.0	5.3	66.6	1.3	12.7	3.1	0.01	1.58	1.47	2000	2120	2210	5.0	12,050	78
				3			40.1	48.2	11.7	4.9	70.4	1.4	8.3	3.2	0.01	1.67	1.55					12,740	
				4			45.4	54.6		5.6	79.7	1.6	9.4	3.7	0.01	1.89	1.76					14,430	
Short Creek		1068	2	2	54	3.7	38.2	49.5	8.6	5.4	70.7	1.4	10.3	3.6	0.01	1.92	1.66	2010	2120	2210	4.5	12,800	78
				3			39.6	51.4	9.0	5.2	73.4	1.4	7.3	3.7	0.01	1.99	1.73					13,290	
				4			43.5	56.5		5.7	80.6	1.5	8.0	4.1	0.01	2.19	1.90					14,590	
	Redstone (No. 8A)	1067	2	2	17	3.6	39.2	47.6	9.6	5.4	70.6	1.4	10.6	2.4	0.01	1.39	1.00	2560	2660	2750	6.0	12,650	78
				3			40.7	49.4	9.9	5.2	73.3	1.4	7.7	2.5	0.01	1.44	1.03					13,120	
				4			45.2	54.8		5.8	81.4	1.6	8.5	2.8	0.01	1.60	1.15					14,560	
	Meigs Creek (No. 9)	847	2	2	40	4.1	37.6	48.6	9.7	5.1	68.8	1.3	11.6	3.5	0.01	1.92	1.59	1990	2040	2260	5.0	12,420	77
				3			39.3	50.6	10.1	4.8	71.8	1.4	8.3	3.7	0.01	2.00	1.66					12,950	
				4			43.7	56.3		5.4	79.8	1.5	9.2	4.1	0.01	2.23	1.85					14,400	
		1066	2	2	35	4.6	36.7	38.5	20.2	4.7	60.4	1.1	11.5	2.1	0.01	1.12	0.96	2000	2110	2200	5.5	10,670	78
				3			38.4	40.4	21.2	4.4	63.3	1.1	7.8	2.2	0.01	1.18	1.00					11,180	
				4			48.8	51.2		5.6	80.3	1.5	9.9	2.8	0.01	1.49	1.27					14,190	
HOCKING COUNTY																							
Green	Lower Kittanning (No. 5)	893	2	2	24	6.0	40.6	41.5	11.9	5.3	63.5	1.1	13.1	5.1	0.39	3.59	1.15	1940	1990	2220	2.5	11,380	77
				3			43.2	44.1	12.7	4.9	67.5	1.2	8.3	5.5	0.42	3.82	1.23					12,100	
				4			49.4	50.6		5.6	77.3	1.4	9.5	6.3	0.48	4.37	1.40					13,860	

Starr		896	2	2	29	6.0	38.5	42.3	13.2	5.1	59.5	1.2	14.7	6.4	0.69	4.03	1.69	1980	2060	2410	2.5	11,030	77
				3			40.9	45.1	14.0	4.7	63.2	1.3	9.9	6.8	0.73	4.28	1.80					11,730	
				4			47.6	52.4		5.4	73.6	1.5	11.6	7.9	0.85	4.98	2.09					13,650	
	Middle Kittanning (No. 6)	889	2	2	55	10.5	34.3	44.8	10.4	5.4	62.4	1.2	19.2	1.4	0.39	0.66	0.35	2715	2800	2800	1.0	10,990	77
				3			38.4	50.0	11.6	4.7	69.8	1.4	11.0	1.6	0.44	0.74	0.39					12,280	
				4			43.4	56.6		5.3	79.0	1.5	12.4	1.8	0.49	0.83	0.45					13,900	
		889-1	2	2	23	9.6	24.6	32.2	33.6	4.1	43.0	0.8	17.0	1.5	0.56	0.67	0.26	2800	2800	2800	0.5	7,440	77
				3			27.2	35.6	37.2	3.4	47.5	0.9	9.4	1.6	0.62	0.74	0.29					8,230	
				4			43.4	56.6		5.4	75.6	1.4	15.0	2.6	0.98	1.18	0.46					13,100	
		890	2	2	42	8.6	34.9	51.7	4.8	5.5	70.1	1.4	17.7	0.6	0.02	0.20	0.40	2680	2910	2910	1.0	12,300	77
				3			38.2	56.5	5.3	5.0	76.7	1.5	11.0	0.7	0.02	0.21	0.43					13,460	
				4			40.3	59.7		5.3	80.9	1.6	11.6	0.7	0.02	0.23	0.46					14,210	
	Lower Freeport (No. 6A)	887	2	2	30	6.0	40.9	42.9	10.2	5.3	65.3	1.3	14.6	3.3	0.01	1.75	1.50	2005	2115	2205	4.0	11,910	77
				3			43.5	45.7	10.8	5.0	69.4	1.4	9.9	3.5	0.01	1.86	1.59					12,660	
				4			48.8	51.2		5.6	77.9	1.5	11.1	3.9	0.01	2.09	1.78					14,210	
		888	2	2	35	7.3	40.7	47.4	4.6	5.6	70.5	1.3	16.2	1.7	0.02	1.12	0.57	2110	2210	2310	5.0	12,620	77
				3			43.9	51.1	5.0	5.2	76.1	1.4	10.5	1.8	0.02	1.21	0.62					13,620	
				4			46.3	53.7		5.5	80.1	1.5	11.0	1.9	0.02	1.27	0.65					14,340	
	Upper Freeport (No. 7)	897	2	2	53	8.9	36.8	48.7	5.6	5.7	68.4	1.0	17.5	1.7	0.19	0.81	0.72	2140	2260	2460	1.5	12,020	77
				3			40.4	53.4	6.2	5.2	75.1	1.2	10.5	1.9	0.21	0.89	0.79					13,190	
				4			43.0	57.0		5.5	80.1	1.2	11.2	2.0	0.22	0.95	0.84					14,060	
Ward	Lower Kittanning (No. 5)	891	2	2	39	9.9	39.8	47.1	3.2	5.8	68.3	1.2	20.3	1.2	0.37	0.16	0.69	2140	2190	2490	1.0	12,060	77
				3			44.2	52.2	3.6	5.2	75.8	1.3	12.7	1.3	0.41	0.17	0.76					13,390	
				4			45.8	54.2		5.4	78.6	1.4	13.2	1.4	0.42	0.18	0.79					13,890	
	Lower Freeport (No. 6A)	892	2	2	29	7.0	41.0	45.1	6.9	5.6	67.0	1.0	17.1	2.4	0.18	0.67	1.54	2140	2250	2850	3.5	12,170	77
				3			44.1	48.5	7.4	5.2	72.0	1.1	11.7	2.6	0.19	0.72	1.66					13,090	
				4			47.6	52.4		5.6	77.8	1.2	12.7	2.8	0.21	0.77	1.79					14,130	
Washington	Upper Mercer (No. 3A)	886	2	2	41	6.9	34.4	48.3	10.4	5.1	65.7	1.4	15.2	2.2	0.12	1.34	0.73	2800	2800	2800	1.0	11,580	77
				3			37.0	51.8	11.2	4.6	70.6	1.5	9.7	2.3	0.12	1.44	0.78					12,450	
				4			41.6	58.4		5.2	79.5	1.6	11.0	2.6	0.14	1.62	0.88					14,010	
	Clarion (No. 4A)	852	2	2	20	3.4	40.6	44.3	11.7	5.2	66.5	1.3	11.9	3.3	0.30	1.80	1.24	2005	2115	2205	1.5	11,990	77
				3			42.0	45.9	12.1	5.0	68.9	1.3	9.2	3.5	0.31	1.86	1.28					12,420	
				4			47.8	52.2		5.7	78.4	1.5	10.4	3.9	0.35	2.12	1.46					14,130	
		860	2	2	18	3.4	42.3	40.4	13.9	5.3	62.9	1.2	10.4	6.4	0.11	4.73	1.58	2000	2140	2330	3.0	11,710	77
				3			43.8	41.9	14.3	5.1	65.1	1.3	7.6	6.6	0.11	4.90	1.63					12,130	
				4			51.1	48.9		5.9	76.0	1.5	8.9	7.8	0.13	5.72	1.91					14,160	
		1012	2	2	29	10.1	39.6	44.6	5.7	5.9	66.0	1.3	18.8	2.4	0.09	0.87	1.46	2110	2200	2310	1.5	11,780	78
				3			44.0	49.7	6.3	5.3	73.4	1.4	11.0	2.7	0.10	0.96	1.63					13,090	
				4			47.0	53.0		5.6	78.3	1.5	11.7	2.9	0.11	1.03	1.74					13,870	
JACKSON COUNTY																							
Bloomfield	Clarion (No. 4A)	872	2	2	35	7.7	38.4	41.5	12.4	5.1	59.8	1.1	14.9	6.6	0.56	5.01	1.05	2005	2115	2205	1.5	11,010	77
				3			41.6	45.0	13.4	4.6	64.8	1.2	8.7	7.2	0.60	5.42	1.13					11,930	
				4			48.1	51.9		5.4	74.9	1.4	10.0	8.3	0.70	6.27	1.31					13,790	
		900	2	2	39	13.5	37.3	38.2	11.0	5.2	57.4	1.1	23.0	2.3	0.11	0.58	1.57	2140	2190	2350	1.0	10,060	77
				3			43.1	44.2	12.7	4.3	66.4	1.3	12.7	2.6	0.13	0.67	1.81					11,630	
				4			49.3	50.7		4.9	76.0	1.5	14.6	3.0	0.15	0.76	2.08					13,320	

Township	Seam	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)			Ultimate (%)						Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
JACKSON COUNTY (continued)																							
Bloomfield (continued)	Lower Kittanning (No. 5)	859	2	2	46	6.6	39.9	41.9	11.6	5.4	63.3	1.3	15.3	3.1	0.29	2.01	0.78	2130	2180	2520	1.0	11,360	77
				3			42.7	44.9	12.4	4.9	67.8	1.4	10.1	3.3	0.32	2.15	0.84					12,170	
				4			48.8	51.2		5.6	77.4	1.6	11.5	3.8	0.36	2.45	0.96					13,900	
Franklin	Clarion (No. 4A)	899	2	2	39	7.6	37.6	40.8	14.0	5.1	59.1	0.8	14.3	6.7	0.50	4.37	1.80	1930	1980	2180	1.0	10,550	77
				3			40.7	44.2	15.1	4.6	64.0	0.9	8.2	7.2	0.54	4.73	1.95					11,420	
				4			48.0	52.0		5.4	75.3	1.0	9.7	8.5	0.64	5.57	2.30					13,450	
Jackson	Sharon (No. 1)	901	2	2	25	9.2	35.5	46.5	8.8	5.5	65.3	1.3	18.1	1.0	0.07	0.36	0.55	2910	2910	2910	0.5	11,450	77
				3			39.0	51.3	9.7	4.9	71.9	1.4	10.9	1.1	0.08	0.40	0.61					12,610	
				4			43.3	56.7		5.5	79.7	1.6	12.1	1.2	0.09	0.44	0.68					13,970	
Jefferson	Clarion (No. 4A)	905	2	2	36	6.2	38.2	41.6	14.0	5.0	59.9	1.1	15.5	4.4	0.44	2.18	1.82	2080	2180	2460	1.0	10,850	77
				3			40.7	44.4	14.9	4.6	63.9	1.1	10.6	4.7	0.47	2.33	1.95					11,570	
				4			47.8	52.2		5.4	75.2	1.3	12.5	5.6	0.55	2.74	2.29					13,600	
Liberty	Sharon (No. 1)	911	2	2	34	11.6	32.2	47.1	9.1	5.3	62.8	1.2	21.0	0.6	0.03	0.04	0.53	2910	2910	2910	0.5	10,660	77
				3			36.4	53.3	10.3	4.5	71.1	1.4	12.1	0.7	0.03	0.05	0.59					12,060	
				4			40.6	59.4		5.0	79.3	1.5	13.5	0.7	0.03	0.05	0.66					13,440	
Madison	Clarion (No. 4A)	868	2	2	48	6.1	41.5	42.9	9.5	5.5	65.1	1.3	14.3	4.3	0.30	2.13	1.89	1980	2030	2450	1.5	11,800	77
				3			44.2	45.7	10.1	5.1	69.3	1.3	9.5	4.6	0.32	2.27	2.01					12,560	
				4			49.2	50.8		5.7	77.1	1.5	10.6	5.1	0.36	2.52	2.23					13,980	
	Lower Kittanning (No. 5)	869	2	2	28	10.6	32.0	46.9	10.5	5.2	61.6	1.1	20.4	1.2	0.36	0.29	0.58	2410	2460	2880	1.0	10,820	77
				3			35.8	52.5	11.7	4.5	68.9	1.2	12.3	1.4	0.41	0.32	0.65					12,100	
				4			40.6	59.4		5.1	78.0	1.4	13.9	1.6	0.46	0.36	0.73					13,710	
	Middle Kittanning (No. 6)	870	2	2	10	6.3	38.7	47.4	7.6	5.4	67.3	1.3	16.0	2.5	0.32	1.72	0.43	1940	1990	2200	1.5	12,030	77
				3			41.3	50.6	8.1	5.0	71.8	1.4	11.1	2.6	0.34	1.83	0.46					12,840	
				4			45.0	55.0		5.5	78.1	1.5	12.0	2.9	0.37	1.99	0.50					13,970	
Milton	Clarion (No. 4A)	871	1	2	36	5.5	37.6	39.5	17.4	4.8	57.1	1.2	14.7	4.8	0.70	2.68	1.42	1980	2070	2450	1.0	10,440	77
				3			39.8	41.8	18.4	4.5	60.4	1.3	10.4	5.1	0.74	2.84	1.50					11,040	
				4			48.8	51.2		5.5	74.0	1.6	12.7	6.2	0.91	3.48	1.84					13,530	
	Middle Kittanning (No. 6)	864	2	2	18	9.3	36.3	49.0	5.4	5.7	68.8	1.3	17.4	1.4	0.13	0.50	0.78	2150	2300	2520	1.0	11,980	77
				3			40.0	54.0	6.0	5.2	75.8	1.4	10.1	1.6	0.14	0.55	0.86					13,200	
				4			42.5	57.5		5.5	80.6	1.5	10.7	1.7	0.15	0.59	0.92					14,040	
	Lower Freeport (No. 6A)	865	2	2	19	6.8	39.0	42.4	11.8	5.2	62.3	1.2	15.0	4.5	0.43	2.61	1.51	1940	1990	2280	2.0	11,230	77
				3			41.8	45.6	12.6	4.7	66.8	1.3	9.7	4.9	0.46	2.80	1.62					12,050	
				4			47.8	52.2		5.4	76.5	1.5	11.1	5.6	0.52	3.20	1.85					13,790	
JEFFERSON COUNTY																							
Salem	Harlem	1065	2	2	25	4.1	34.5	54.1	7.3	5.3	72.3	1.6	12.8	0.7	0.01	0.26	0.48	2650	2760	2910	4.5	13,120	78
				3			36.0	56.4	7.6	5.0	75.5	1.6	9.5	0.8	0.01	0.27	0.50					13,680	
				4			39.0	61.0		5.4	81.7	1.8	10.2	0.8	0.01	0.29	0.54					14,810	

Smithfield	Redstone (No. 8A)	1070	2	2	25	4.4	35.9	49.4	10.3	5.3	69.8	1.3	11.6	1.7	0.01	0.80	0.89	2420	2510	2600	6.5	12,470	78
				3			37.5	51.7	10.8	5.0	73.1	1.4	8.0	1.8	0.01	0.84	0.93					13,060	
				4			42.1	57.9		5.6	81.9	1.6	9.0	2.0	0.01	0.94	1.04					14,630	
Springfield	Pittsburgh (No. 8)	1064	2	2	60	3.7	36.8	49.6	9.9	5.1	68.1	1.3	12.1	3.4	0.01	1.91	1.50	2010	2120	2210	4.5	12,560	78
				3			38.2	51.5	10.3	4.9	70.7	1.4	9.2	3.5	0.01	1.98	1.55					13,040	
				4			42.7	57.3		5.5	78.8	1.5	10.3	4.0	0.01	2.21	1.73					14,540	
Warren	Waynesburg (No. 11)	846	2	2	37	4.3	38.5	49.0	8.2	5.4	70.6	1.4	11.7	2.8	0.01	1.57	1.22	2030	2130	2330	4.5	12,650	77
				3			40.2	51.2	8.6	5.1	73.7	1.4	8.2	2.9	0.01	1.64	1.28					13,220	
				4			44.0	56.0		5.6	80.7	1.6	9.0	3.2	0.01	1.79	1.40					14,460	
Wayne	Pittsburgh (No. 8)	839	2	2	52	2.9	36.5	50.2	10.4	5.1	69.7	1.4	10.1	3.4	0.26	1.80	1.33	2105	2205	2315	6.0	12,560	77
				3			37.6	51.7	10.7	4.9	71.8	1.4	7.7	3.5	0.27	1.86	1.37					12,940	
				4			42.1	57.9		5.5	80.4	1.6	8.6	3.9	0.30	2.08	1.53					14,490	
LAWRENCE COUNTY																								
Aid	Wilgus	909	2	2	23	7.6	37.0	46.1	9.3	4.9	64.1	1.2	17.4	3.1	0.40	0.76	1.94	1900	1940	2250	1.0	11,170	77
				3			40.0	49.9	10.1	4.4	69.3	1.3	11.5	3.4	0.44	0.82	2.10					12,080	
				4			44.5	55.5		4.9	77.1	1.5	12.8	3.7	0.49	0.91	2.33					13,440	
Elizabeth	Lower Kittanning (No. 5)	906	2	2	43	8.4	36.2	43.9	11.5	5.4	62.7	1.3	17.2	1.9	0.41	0.81	0.67	2190	2360	2630	1.0	10,990	77
				3			39.6	47.8	12.6	4.9	68.5	1.4	10.6	2.1	0.45	0.89	0.73					12,000	
				4			45.2	54.8		5.6	78.3	1.6	12.1	2.4	0.51	1.01	0.84					13,720	
	Middle Kittanning (No. 6)	907	2	2	15	5.5	38.8	45.1	10.6	5.0	62.7	1.3	15.5	4.9	0.60	3.32	1.01	2080	2130	2310	1.5	11,440	77
				3			41.1	47.7	11.2	4.7	66.3	1.4	11.2	5.2	0.64	3.51	1.07					12,110	
				4			46.3	53.7		5.3	74.7	1.6	12.6	5.9	0.72	3.95	1.20					13,630	
Mason	Redstone (No. 8A)	1031	2	2	24	6.0	42.0	45.0	7.0	5.5	68.3	1.3	14.4	3.5	0.01	1.90	1.61	2020	2100	2200	4.5	12,440	78
				3			44.7	47.9	7.4	5.1	72.7	1.4	9.7	3.7	0.01	2.02	1.71					13,230	
				4			48.2	51.8		5.6	78.5	1.5	10.4	4.0	0.01	2.19	1.85					14,290	
		1031-1	2	2	13	6.1	40.9	45.0	8.0	5.6	67.5	1.1	13.8	3.9	0.05	2.11	1.73	2010	2120	2210	5.0	12,150	78
				3			43.5	48.0	8.5	5.2	71.9	1.2	8.9	4.1	0.05	2.25	1.85					12,940	
				4			47.6	52.4		5.7	78.6	1.3	9.8	4.5	0.06	2.46	2.02					14,150	
Symmes	Wilgus	904	2	2	27	7.5	36.6	44.8	11.1	5.1	62.4	1.2	15.9	4.3	0.38	1.99	1.94	1940	2020	2250	1.0	11,210	77
				3			39.6	48.4	12.0	4.6	67.5	1.3	10.0	4.7	0.41	2.15	2.09					12,110	
				4			44.9	55.1		5.2	76.7	1.5	11.3	5.3	0.47	2.44	2.38					13,760	
Washington	Clarion (No. 4A)	903	2	2	38	7.0	38.0	42.4	12.6	5.0	61.3	1.1	16.3	3.7	0.47	1.64	1.62	2020	2130	2590	1.0	10,970	77
				3			40.9	45.6	13.5	4.6	65.9	1.1	10.9	4.0	0.51	1.76	1.74					11,790	
				4			47.3	52.7		5.3	76.2	1.3	12.6	4.6	0.59	2.03	2.01					13,630	
	Lower Kittanning (No. 5)	902	2	2	31	9.0	36.2	46.6	8.2	5.5	65.3	1.3	18.0	1.8	0.24	0.88	0.64	2120	2170	2490	1.0	11,540	77
				3			39.8	51.2	9.0	4.9	71.7	1.4	11.0	1.9	0.27	0.96	0.70					12,690	
				4			43.7	56.3		5.4	78.8	1.6	12.0	2.1	0.30	1.06	0.77					13,940	
Windsor	Pittsburgh (No. 8)	910	2	2	46	5.5	41.9	42.3	10.3	5.2	64.3	1.0	13.7	5.4	0.63	2.80	1.98	2020	2102	2250	3.0	11,580	77
				3			44.4	44.7	10.9	4.8	68.1	1.1	9.3	5.7	0.66	2.96	2.10					12,260	
				4			49.8	50.2		5.4	76.4	1.2	10.5	6.4	0.74	3.33	2.36					13,760	
LICKING COUNTY																								
Bowling Green	Quakertown (No. 2)	1088	2	2	24	7.2	34.0	45.6	13.2	5.6	64.2	1.2	14.9	0.9	0.02	0.44	0.48	2800	2800	2800	1.0	11,420	78
				3			36.6	49.2	14.2	5.2	69.1	1.3	9.2	1.0	0.02	0.47	0.52					12,310	
				4			42.7	57.3		6.0	80.6	1.5	10.7	1.2	0.02	0.55	0.61					14,350	

Township	Seam	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
MONROE COUNTY																							
Green	Lower Kittanning (No. 5)	999	3	2	42	1.4	42.0	45.2	11.4	5.3	71.4	1.3	6.0	4.7	0.06	3.53	1.08	1900	1920	2020	7.0	13,090	78
				3			42.6	45.9	11.5	5.2	72.4	1.4	4.8	4.7	0.06	3.58	1.10					13,280	
				4			48.1	51.9		5.9	81.8	1.5	5.4	5.4	0.07	4.05	1.24					15,000	
	Middle Kittanning (No. 6)	1000	3	2	37	1.6	37.2	42.3	18.9	4.9	64.7	1.1	6.3	4.0	0.09	2.70	1.24	2150	2200	2340	5.5	11,730	78
				3			37.8	43.0	19.2	4.8	65.7	1.1	5.0	4.1	0.09	2.74	1.26					11,930	
				4			46.8	53.2		6.0	81.4	1.4	6.1	5.1	0.11	3.40	1.56					14,770	
	Pittsburgh (No. 8)	997	3	2	47	2.5	42.4	45.4	9.7	5.4	70.2	1.2	7.9	5.5	0.02	3.64	1.84	2050	2150	2255	7.0	12,960	78
				3			43.5	46.5	10.0	5.3	72.0	1.2	5.8	5.6	0.02	3.74	1.88					13,290	
				4			48.4	51.6		5.8	80.0	1.4	6.5	6.3	0.02	4.15	2.09					14,760	
		998	3	2	42	2.1	43.2	42.9	11.8	5.2	68.2	1.1	7.4	6.3	0.14	3.75	2.43	1920	1970	2340	6.0	12,580	78
				3			44.1	43.8	12.1	5.1	69.7	1.1	5.6	6.5	0.15	3.83	2.48					12,840	
				4			50.2	49.8		5.8	79.2	1.2	6.4	7.3	0.17	4.35	2.82					14,600	
Salem		989	3	2	58	2.2	42.0	46.3	9.5	5.4	70.4	1.2	7.8	5.7	0.01	4.00	1.65	2110	2200	2310	7.0	13,020	78
				3			43.0	47.3	9.7	5.3	72.0	1.3	6.0	5.8	0.01	4.09	1.69					13,320	
				4			47.6	52.4		5.8	79.7	1.4	6.6	6.4	0.01	4.53	1.87					14,750	
	Fishpot	985	3	2	28	3.0	36.3	37.6	23.1	4.5	57.8	1.1	9.1	4.4	0.03	1.69	2.72	2000	2120	2200	5.5	10,760	78
				3			37.4	38.8	23.8	4.3	59.6	1.1	6.6	4.6	0.03	1.75	2.80					11,100	
				4			49.1	50.9		5.6	78.2	1.5	8.7	6.0	0.04	2.29	3.68					14,560	
Seneca	Brookville (No. 4)	938	3	2	44	1.5	36.8	36.9	24.8	4.7	56.4	1.1	6.6	6.3	0.04	5.01	1.27	2110	2210	2305	4.5	10,790	78
				3			37.3	37.5	25.2	4.6	57.3	1.1	5.3	6.4	0.04	5.08	1.29					10,950	
				4			49.9	50.1		6.2	76.6	1.5	7.1	8.6	0.05	6.80	1.73					14,650	
	Lower Kittanning (No. 5)	934	3	2	31	1.9	42.8	44.5	10.8	5.4	70.2	1.3	7.1	5.3	0.26	3.58	1.44	1955	2055	2155	5.5	12,980	78
				3			43.7	45.3	11.0	5.3	71.6	1.3	5.5	5.4	0.26	3.65	1.47					13,240	
				4			49.1	50.9		5.9	80.4	1.5	6.2	6.0	0.30	4.10	1.65					14,880	
		934-1	3	2	12	1.8	26.4	27.5	44.3	3.5	42.4	0.7	4.9	4.1	0.03	3.33	0.74	2200	2320	2600	1.0	7,660	78
				3			26.9	28.0	45.1	3.4	43.2	0.7	3.4	4.2	0.03	3.39	0.75					7,800	
				4			48.9	51.1		6.1	78.7	1.3	6.2	7.6	0.06	6.17	1.36					14,210	
	Middle Kittanning (No. 6)	937	3	2	44	2.4	40.6	41.2	15.8	5.1	66.4	1.2	8.8	2.7	0.03	1.55	1.13	2560	2650	2755	7.0	12,120	78
				3			41.6	42.2	16.2	4.9	68.0	1.2	6.9	2.8	0.03	1.59	1.16					12,420	
				4			49.7	50.3		5.9	81.2	1.5	8.2	3.3	0.04	1.90	1.38					14,820	
		940	3	2	36	2.8	42.6	45.4	9.2	5.3	70.0	1.3	8.9	5.4	0.15	3.82	1.39	2155	2255	2355	5.5	13,010	78
				3			43.9	46.6	9.5	5.1	72.0	1.3	6.5	5.5	0.15	3.93	1.43					13,390	
				4			48.5	51.5		5.7	79.6	1.5	7.2	6.1	0.17	4.34	1.58					14,790	
		944	3	2	42	2.1	37.4	40.2	20.3	4.8	61.4	1.1	8.0	4.4	0.21	2.78	1.45	2115	2205	2305	4.5	11,420	78
				3			38.2	41.0	20.8	4.6	62.7	1.1	6.2	4.5	0.21	2.84	1.48					11,660	
				4			48.2	51.8		5.8	79.2	1.4	7.9	5.7	0.27	3.58	1.87					14,720	
	Upper Freeport (No. 7)	936	3	2	44	2.1	37.7	42.9	17.3	4.9	65.3	1.2	7.8	3.6	0.04	2.76	0.81	2105	2205	2315	5.0	11,930	78
				3			38.5	43.8	17.7	4.8	66.6	1.2	6.0	3.7	0.04	2.82	0.83					12,180	
				4			46.8	53.2		5.8	81.0	1.4	7.3	4.5	0.05	3.43	1.01					14,800	

		939	3	2	40	3.1	36.5	49.4	11.0	5.3	71.1	1.3	9.9	1.4	0.01	0.99	0.44	2560	2655	2745	4.5	12,760	78
				3			37.7	51.0	11.3	5.1	73.3	1.4	7.3	1.5	0.01	1.02	0.46					13,170	
				4			42.5	57.5		5.8	82.7	1.5	8.3	1.7	0.01	1.15	0.52					14,850	
		939-1	3	2	10	3.3	26.2	29.0	41.5	3.7	41.8	0.8	9.7	2.5	0.01	2.29	0.22	2800	2800	2800	1.0	7,650	78
				3			27.1	30.0	42.9	3.4	43.3	0.8	7.0	2.6	0.01	2.36	0.22					7,920	
				4			47.5	52.5		6.0	75.8	1.4	12.3	4.6	0.02	4.14	0.39					13,870	
		943	3	2	52	2.9	32.3	44.4	20.4	4.6	62.5	1.1	9.1	2.2	0.03	1.72	0.48	2515	2605	2705	5.0	11,250	78
				3			33.3	45.7	21.0	4.4	64.4	1.1	6.8	2.3	0.03	1.77	0.50					11,590	
				4			42.1	57.9		5.6	81.5	1.4	8.6	2.9	0.04	2.24	0.63					14,670	
Summit	Lower Kittanning (No. 5)	933	3	2	34	1.7	31.8	35.0	31.5	4.3	52.6	1.0	6.2	4.5	0.12	3.00	1.38	2415	2505	2605	4.5	9,660	78
				3			32.4	35.6	32.0	4.1	53.5	1.0	4.8	4.6	0.12	3.05	1.41					9,830	
				4			47.6	52.4		6.1	78.6	1.5	7.0	6.7	0.18	4.48	2.07					14,450	
	Middle Kittanning (No. 6)	932	3	2	34	1.9	39.4	43.0	15.7	5.2	67.3	1.2	8.3	2.3	0.02	1.00	1.27	2405	2510	2610	6.5	12,310	78
				3			40.2	43.8	16.0	5.1	68.5	1.2	6.7	2.3	0.02	1.02	1.30					12,540	
				4			47.8	52.2		6.1	81.6	1.5	8.0	2.8	0.02	1.22	1.54					14,940	
	Upper Freeport (No. 7)	942	3	2	48	3.1	34.5	45.3	17.1	4.8	64.2	1.1	8.7	4.1	0.17	3.86	0.06	2105	2215	2315	4.5	11,720	78
				3			35.6	46.8	17.6	4.6	66.2	1.2	6.1	4.2	0.17	3.98	0.06					12,090	
				4			43.2	56.8		5.6	80.3	1.4	7.4	5.1	0.21	4.83	0.07					14,680	
Sunsbury	Lower Kittanning (No. 5)	995	3	2	32	1.6	43.5	43.5	11.4	5.2	69.1	1.2	6.4	6.7	0.10	5.09	1.52	2320	2370	2470	7.5	12,940	78
				3			44.1	44.3	11.6	5.1	70.2	1.2	5.1	6.8	0.10	5.17	1.55					13,150	
				4			49.9	50.1		5.8	79.4	1.4	5.7	7.7	0.11	5.84	1.75					14,870	
	Middle Kittanning (No. 6)	994	3	2	31	2.5	40.6	46.1	10.8	5.4	70.6	1.3	8.4	3.5	0.04	1.93	1.56	2300	2570	2670	6.5	12,950	78
				3			41.6	47.3	11.1	5.2	72.5	1.3	6.3	3.6	0.04	1.98	1.60					13,290	
				4			46.8	53.2		5.9	81.5	1.5	7.1	4.1	0.05	2.23	1.80					14,940	
	Lower Freeport (No. 6A)	993	3	2	29	2.8	35.1	47.7	14.4	5.0	68.0	1.3	8.2	3.2	0.08	2.48	0.67	2130	2150	2190	5.5	12,250	78
				3			36.2	49.0	14.8	4.8	70.0	1.3	5.8	3.3	0.08	2.55	0.69					12,610	
				4			42.5	57.5		5.6	82.1	1.5	6.8	3.9	0.10	3.00	0.81					14,800	
	Pittsburgh (No. 8)	992	3	2	57	2.0	42.3	44.5	11.2	5.0	67.8	1.1	8.3	6.5	0.13	3.91	2.50	2200	2320	2570	6.5	12,590	78
				3			43.1	45.4	11.5	4.9	69.2	1.2	6.6	6.7	0.14	3.99	2.55					12,850	
				4			48.7	51.3		5.5	78.2	1.3	7.5	7.5	0.15	4.51	2.88					14,520	
	Redstone (No. 8A)	991	3	2	33	2.3	35.8	40.7	21.2	4.7	60.4	1.3	7.5	4.9	0.08	3.48	1.36	2140	2170	2200	5.0	11,020	78
				3			36.7	41.6	21.7	4.5	61.8	1.3	5.6	5.0	0.08	3.56	1.39					11,280	
				4			46.8	53.2		5.8	78.9	1.7	7.2	6.4	0.10	4.55	1.78					14,410	
	Meigs Creek (No. 9)	990	3	2	34	2.9	38.1	41.2	17.8	4.9	63.0	1.5	7.8	5.1	0.16	2.66	2.23	1940	2020	2350	6.0	11,550	78
				3			39.2	42.5	18.3	4.7	64.9	1.5	5.4	5.2	0.16	2.74	2.30					11,890	
				4			48.0	52.0		5.8	79.4	1.8	6.6	6.4	0.20	3.36	2.81					14,560	
	Not designated	996	3	2	34	1.6	37.0	45.7	15.7	5.0	68.2	1.2	7.6	2.4	0.02	1.54	0.80	2910	2910	2910	4.5	12,340	78
				3			37.6	46.5	15.9	4.9	69.3	1.2	6.2	2.4	0.02	1.56	0.81					12,540	
				4			44.8	55.2		5.9	82.5	1.4	7.4	2.8	0.03	1.86	0.97					14,920	
MUSKINGUM COUNTY																							
Brush Creek	Upper Freeport (No. 7)	1090	2	2	24	5.1	41.2	46.5	7.2	5.8	69.3	1.3	12.8	3.6	0.05	2.12	1.44	1900	2020	2130	4.5	12,600	78
				3			43.5	48.9	7.6	5.5	73.0	1.4	8.7	3.8	0.05	2.23	1.52					13,280	
				4			47.0	53.0		5.9	79.1	1.5	9.4	4.1	0.06	2.42	1.64					14,370	
Clay	Middle Kittanning (No. 6)	1089	2	2	39	6.4	40.5	47.2	5.9	5.8	67.7	1.3	15.7	3.6	0.08	1.78	1.72	1920	2010	2100	4.0	12,450	78
				3			43.3	50.3	6.4	5.4	72.4	1.4	10.7	3.8	0.08	1.91	1.83					13,300	
				4			46.3	53.7		5.8	77.3	1.5	11.4	4.1	0.09	2.04	1.96					14,210	

Township	Seam	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
MUSKINGUM COUNTY (continued)																							
Madison	Middle Kittanning (No. 6) (continued)	1097	2	2	29	6.7	39.6	48.9	4.8	5.9	67.3	1.4	17.3	3.4	0.09	1.58	1.75	2100	2210	2300	3.0	12,550	78
				3			42.5	52.4	5.1	5.5	72.1	1.5	12.1	3.7	0.09	1.69	1.88					13,450	
				4			44.8	55.2		5.8	76.0	1.6	12.7	3.9	0.10	1.78	1.98					14,180	
Meigs	Meigs Creek (No. 9)	1100	2	2	52	4.1	38.9	42.3	14.7	5.2	62.7	1.0	10.5	5.9	0.01	2.67	3.26	2010	2100	2200	6.0	11,530	78
				3			40.5	44.1	15.4	4.9	65.3	1.1	7.2	6.2	0.01	2.79	3.40					12,020	
				4			47.9	52.1		5.8	77.2	1.3	8.5	7.3	0.01	3.30	4.02					14,200	
	Uniontown (No. 10)	1099	2	2	17	6.0	37.5	42.4	14.3	5.3	61.8	1.1	14.1	3.4	0.01	1.49	1.95	2260	2350	2460	4.5	11,250	78
				3			39.9	44.9	15.2	4.9	65.7	1.1	9.3	3.7	0.01	1.58	2.07					11,970	
				4			47.0	53.0		5.8	77.5	1.3	11.0	4.3	0.01	1.87	2.45					14,120	
Newton	Lower Kittanning (No. 5)	1086	2	2	40	7.2	38.4	47.6	6.8	5.7	67.9	1.4	15.4	2.7	0.02	1.22	1.45	1840	1950	2070	5.0	12,260	78
				3			41.3	51.3	7.4	5.3	73.2	1.5	9.7	2.9	0.02	1.32	1.56					13,200	
				4			44.6	55.4		5.7	79.0	1.6	10.5	3.1	0.02	1.42	1.69					14,250	
	Middle Kittanning (No. 6)	1077	2	2	39	5.9	42.0	45.8	6.3	6.0	69.3	5.6	9.4	3.3	0.01	1.63	1.64	1950	2050	2160	4.0	12,640	78
				3			44.6	48.7	6.7	5.7	73.7	6.0	4.4	3.5	0.01	1.73	1.74					13,430	
				4			47.8	52.2		6.1	79.0	6.4	4.7	3.7	0.01	1.86	1.87					14,400	
Rich Hill	Pittsburgh (No. 8)	1101	2	2	28	5.2	37.3	43.1	14.4	5.2	62.4	1.2	11.9	4.8	0.03	2.55	2.24	2060	2170	2260	3.5	11,390	78
				3			39.3	45.5	15.2	4.9	65.9	1.3	7.7	5.1	0.03	2.69	2.36					12,020	
				4			46.4	53.6		5.8	77.6	1.5	9.1	6.0	0.04	3.17	2.78					14,160	
Salem	Middle Kittanning (No. 6)	1076	2	2	34	5.2	42.9	45.0	6.9	5.9	69.4	1.3	13.0	3.5	0.01	1.64	1.90	1930	2050	2170	4.0	12,710	78
				3			45.2	47.5	7.3	5.6	73.2	1.4	8.9	3.7	0.01	1.73	2.00					13,400	
				4			48.8	51.2		6.0	79.0	1.5	9.5	4.0	0.01	1.86	2.16					14,450	
Union	Pittsburgh (No. 8)	1091	2	2	25	5.6	38.0	46.2	10.2	5.5	66.6	1.3	13.1	3.4	0.07	1.84	1.46	1920	2010	2120	4.0	12,020	78
				3			40.3	48.9	10.8	5.2	70.5	1.4	8.6	3.6	0.07	1.95	1.54					12,730	
				4			45.2	54.8		5.8	79.1	1.6	9.6	4.0	0.08	2.19	1.73					14,280	
		1093	2	2	31	5.3	39.0	44.2	11.5	5.4	64.1	1.2	11.9	5.9	0.07	2.95	2.86	1920	2010	2120	4.0	11,790	78
				3			41.2	46.6	12.2	5.0	67.7	1.3	7.6	6.2	0.07	3.12	3.03					12,450	
				4			46.9	53.1		5.7	77.1	1.5	8.6	7.1	0.08	3.55	3.44					14,180	
	Meigs Creek (No. 9)	1092	2	2	56	7.0	32.6	43.3	17.1	5.0	58.3	1.0	15.3	3.2	0.19	1.48	1.55	2410	2500	2610	1.0	10,500	78
				3			35.1	46.5	18.4	4.6	62.7	1.1	9.7	3.5	0.20	1.59	1.67					11,300	
				4			43.0	57.0		5.6	76.9	1.3	11.9	4.2	0.25	1.94	2.04					13,840	
Washington	Middle Kittanning (No. 6)	1095	2	2	27	6.5	38.9	45.9	8.7	5.7	66.1	1.2	13.7	4.6	0.26	2.23	2.07	2100	2210	2300	4.0	12,000	78
				3			41.6	49.0	9.4	5.3	70.7	1.3	8.4	4.9	0.28	2.38	2.22					12,840	
				4			45.9	54.1		5.9	78.0	1.4	9.3	5.4	0.31	2.63	2.45					14,160	
		1096		2	43	6.2	41.2	45.4	7.2	5.9	67.9	1.3	13.3	4.5	0.09	2.22	2.21	1900	2020	2110	3.5	12,360	78
				3			43.9	48.5	7.6	5.6	72.3	1.3	8.3	4.8	0.09	2.37	2.36					13,180	
				4			47.5	52.5		6.0	78.3	1.5	9.0	5.2	0.10	2.56	2.55					14,260	
	Upper Freeport (No. 7)	1094	2	2	70	7.3	36.0	44.5	12.2	5.3	62.6	1.2	15.0	3.6	0.06	2.07	1.49	2115	2205	2315	3.5	11,330	78
				3			38.8	48.0	13.2	4.9	67.5	1.3	9.2	3.9	0.06	2.23	1.61					12,220	
				4			44.7	55.3		5.6	77.8	1.5	10.6	4.5	0.07	2.57	1.85					14,070	

NOBLE COUNTY																							
Beaver	Lower Kittanning (No. 5)	960	3	2	25	2.1	40.8	48.5	8.6	5.4	71.5	1.3	8.2	5.0	0.15	2.87	1.95	2020	2070	2350	5.0	13,100	78
				3			41.6	49.6	8.8	5.2	73.1	1.3	6.5	5.1	0.15	2.93	1.99					13,380	
				4			45.6	54.4		5.8	80.1	1.4	7.1	5.6	0.17	3.21	2.19					14,670	
		960-1	3	2	12	2.4	26.6	28.4	42.6	3.5	41.7	0.6	6.6	4.9	0.06	3.93	0.93	2250	2380	2910	1.0	7,660	78
				3			27.2	29.1	43.7	3.3	42.7	0.7	4.5	5.0	0.06	4.02	0.95					7,850	
				4			48.4	51.6		5.9	75.9	1.2	8.1	9.0	0.11	7.15	1.69					13,940	
	Middle Kittanning (No. 6)	959	3	2	29	2.0	43.4	49.1	5.5	5.5	76.1	1.3	8.5	3.1	0.19	1.12	1.75	2120	2200	2350	6.5	13,710	78
				3			44.3	50.0	5.7	5.4	77.7	1.3	6.9	3.1	0.20	1.15	1.78					13,990	
				4			46.9	53.1		5.7	82.3	1.4	7.3	3.3	0.21	1.21	1.89					14,820	
		959-1	3	2	10	2.1	27.8	29.3	40.8	3.8	45.1	0.8	8.2	1.3	0.03	0.48	0.78	2770	2910	2910	1.0	8,120	78
				3			28.4	29.9	41.7	3.6	46.1	0.8	6.5	1.3	0.03	0.49	0.79					8,290	
				4			48.7	51.3		6.2	79.0	1.3	11.1	2.3	0.05	0.84	1.36					14,220	
	Lower Freeport (No. 6A)	958	3	2	47	2.9	38.8	50.0	8.3	5.3	72.8	1.3	9.4	2.8	0.16	1.55	1.05	2010	2130	2350	5.0	13,110	78
				3			39.9	51.5	8.6	5.2	75.0	1.3	7.0	2.9	0.17	1.60	1.09					13,510	
				4			43.7	56.3		5.7	82.1	1.4	7.7	3.1	0.18	1.75	1.19					14,780	
	Upper Freeport (No. 7)	957	3	2	32	3.9	33.7	52.1	10.3	5.1	71.7	1.1	10.9	0.9	0.03	0.21	0.67	2850	2910	2910	4.0	12,670	78
				3			35.1	54.2	10.7	4.9	74.5	1.1	7.8	0.9	0.03	0.22	0.70					13,180	
				4			39.3	60.7		5.4	83.4	1.3	8.7	1.1	0.03	0.24	0.78					14,760	
Brookfield	Meigs Creek (No. 9)	1102	2	2	49	4.2	39.2	44.5	12.1	5.5	65.4	1.1	10.8	5.1	0.01	2.01	3.07	1910	2000	2120	4.5	11,960	78
				3			40.9	46.4	12.7	5.2	68.3	1.1	7.4	5.3	0.01	2.10	3.21					12,490	
				4			46.9	53.1		6.0	78.2	1.3	8.5	6.1	0.01	2.40	3.68					14,300	
Buffalo	Middle Kittanning (No. 6)	954	3	2	33	3.2	40.8	47.2	8.8	5.3	69.2	1.2	10.6	4.8	0.34	2.56	1.87	2040	2090	2490	4.5	12,620	78
				3			42.1	48.8	9.1	5.1	71.5	1.3	8.0	4.9	0.35	2.65	1.93					13,040	
				4			46.3	53.7		5.6	78.6	1.4	8.9	5.4	0.39	2.91	2.12					14,340	
	Upper Freeport (No. 7)	953	3	2	32	3.8	34.3	50.0	11.9	5.1	68.6	1.2	12.0	1.1	0.03	0.41	0.68	2910	2910	2910	4.0	12,230	78
				3			35.6	52.0	12.4	4.9	71.3	1.3	8.9	1.2	0.03	0.43	0.71					12,720	
				4			40.7	59.3		5.6	81.4	1.4	10.2	1.3	0.04	0.49	0.80					14,520	
Center	Lower Kittanning (No. 5)	930	3	2	33	1.8	40.8	44.2	13.2	4.9	66.0	1.1	6.9	8.0	0.41	5.76	1.80	2140	2240	2420	4.5	12,180	78
				3			41.6	44.9	13.5	4.8	67.2	1.1	5.4	8.1	0.42	5.87	1.83					12,400	
				4			48.0	52.0		5.6	77.6	1.3	6.2	9.4	0.48	6.78	2.11					14,330	
		956	3	2	34	3.4	39.1	44.7	12.8	5.2	67.3	1.1	8.7	4.7	0.34	1.98	2.40	2010	2060	2120	5.0	12,180	78
				3			40.4	46.3	13.3	5.0	69.7	1.1	5.9	4.9	0.36	2.05	2.48					12,610	
				4			46.7	53.3		5.8	80.4	1.3	6.8	5.6	0.41	2.37	2.86					14,550	
	Middle Kittanning (No. 6)	935	3	2	36	3.1	38.9	48.7	9.3	5.3	70.0	1.3	9.5	4.6	0.08	3.05	1.43	2205	2305	2405	5.0	12,910	78
				3			40.2	50.2	9.6	5.1	72.2	1.3	7.0	4.7	0.08	3.14	1.48					13,320	
				4			44.4	55.6		5.7	79.9	1.5	7.7	5.2	0.09	3.48	1.63					14,740	
		941	3	2	47	2.5	42.3	46.0	9.2	5.4	71.5	1.3	8.7	3.8	0.02	2.10	1.63	2055	2155	2255	5.0	12,990	78
				3			43.4	47.1	9.5	5.3	73.4	1.3	6.6	3.8	0.02	2.15	1.68					13,330	
				4			47.9	52.1		5.8	81.1	1.5	7.3	4.3	0.02	2.38	1.85					14,720	
		955	3	2	37	2.5	38.6	47.0	11.9	5.1	68.8	1.1	9.3	3.7	0.09	1.81	1.83	2040	2140	2350	5.0	12,500	78
				3			39.6	48.2	12.2	4.9	70.6	1.1	7.3	3.8	0.09	1.85	1.88					12,820	
				4			45.1	54.9		5.6	80.5	1.3	8.3	4.4	0.10	2.11	2.14					14,610	
	Not designated	931	3	2	27	1.6	39.2	44.4	14.8	5.2	68.0	1.1	7.7	3.1	0.06	2.50	0.54	2140	2190	2390	4.5	12,320	78
				3			39.9	45.0	15.1	5.1	69.1	1.1	6.4	3.2	0.06	2.54	0.55					12,520	
				4			46.9	53.1		6.0	81.4	1.3	7.5	3.7	0.07	3.00	0.64					14,750	

Township	Seam	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
NOBLE COUNTY (continued)																							
Elk	Lower Kittanning (No. 5)	919	3	2	44	1.5	39.1	42.7	16.7	5.0	65.2	1.2	6.6	5.3	0.26	3.51	1.51	2000	2050	2330	4.5	12,030	78
				3			39.7	43.3	17.0	4.9	66.2	1.2	5.4	5.4	0.26	3.57	1.53					12,210	
				4			47.8	52.2		6.0	79.7	1.4	6.4	6.5	0.31	4.30	1.85					14,710	
	Middle Kittanning (No. 6)	928	3	2	29	1.6	39.9	47.7	10.8	5.1	70.5	0.9	7.5	5.2	0.05	3.93	1.18	2090	2140	2510	6.0	12,930	78
				3			40.6	48.4	11.0	5.0	71.7	0.9	6.2	5.2	0.05	3.99	1.20					13,140	
				4			45.6	54.4		5.6	80.5	1.0	6.9	5.9	0.06	4.48	1.34					14,750	
	Lower Freeport (No. 6A)	925	3	2	62	2.3	36.9	48.1	12.7	5.0	71.1	1.4	6.9	2.9	0.02	2.26	0.62	2105	2215	2310	4.5	12,660	78
				3			37.7	49.3	13.0	4.9	72.7	1.4	4.9	3.0	0.02	2.31	0.64					12,960	
				4			43.4	56.6		5.6	83.6	1.7	5.7	3.4	0.02	2.66	0.73					14,890	
Jackson		918	3	2	39	3.1	38.7	49.4	8.8	5.2	72.3	1.4	9.7	2.6	0.02	2.03	0.57	2155	2255	2355	6.0	13,070	78
				3			39.9	51.0	9.1	5.0	74.6	1.4	7.2	2.7	0.02	2.10	0.59					13,490	
				4			43.9	56.1		5.5	82.1	1.6	7.9	3.0	0.02	2.31	0.65					14,830	
		918-1	3	2	24	1.4	36.5	35.0	27.1	4.5	58.0	1.0	6.1	3.2	0.01	2.62	0.53	2255	2355	2455	1.0	10,650	78
				3			37.0	35.5	27.5	4.4	58.9	1.0	4.9	3.2	0.01	2.65	0.53					10,800	
				4			51.0	49.0		6.1	81.1	1.4	6.8	4.4	0.01	3.66	0.74					14,890	
	Meigs Creek (No. 9)	1110	2	2	38	3.2	38.5	45.0	13.3	5.2	66.4	1.2	10.3	3.5	0.01	1.78	1.74	2210	2320	2410	6.0	12,150	78
				3			39.8	46.4	13.8	5.0	68.6	1.3	7.7	3.6	0.01	1.83	1.79					12,550	
				4			46.1	53.9		5.8	79.6	1.5	8.9	4.2	0.01	2.13	2.08					14,560	
Marion	Brookville (No. 4)	946	3	2	29	1.9	41.7	41.6	14.8	5.2	68.1	1.3	7.4	3.1	0.01	1.79	1.31	2455	2555	2650	4.5	12,450	78
				3			42.5	42.4	15.1	5.1	69.4	1.3	5.9	3.2	0.01	1.82	1.34					12,690	
				4			50.0	50.0		6.0	81.7	1.6	6.9	3.7	0.01	2.15	1.57					14,940	
	Middle Kittanning (No. 6)	945	3	2	40	3.0	38.4	43.0	15.6	5.6	66.2	1.2	9.0	2.4	0.01	1.43	0.99	2415	2515	2610	5.0	11,980	78
				3			39.6	44.3	16.1	5.4	68.2	1.2	6.5	2.5	0.01	1.47	1.02					12,350	
				4			47.2	52.8		6.4	81.3	1.5	7.8	3.0	0.01	1.75	1.22					14,720	
	Not designated	947	3	2	31	2.4	35.0	43.4	19.2	5.0	62.1	1.2	8.0	4.6	0.02	3.44	1.10	2205	2305	2405	5.0	11,500	78
				3			35.9	44.4	19.7	4.8	63.6	1.2	6.0	4.7	0.02	3.53	1.12					11,780	
				4			44.6	55.4		6.0	79.2	1.5	7.5	5.8	0.03	4.39	1.40					14,670	
Olive	Middle Kittanning (No. 6)	920	3	2	38	2.3	40.0	46.0	11.7	5.2	68.8	1.1	7.3	6.0	0.15	4.66	1.15	2130	2230	2410	5.0	12,510	78
				3			40.9	47.1	12.0	5.0	70.4	1.1	5.4	6.1	0.16	4.77	1.17					12,800	
				4			46.5	53.5		5.7	79.9	1.3	6.2	6.9	0.18	5.42	1.33					14,540	
Seneca		962	3	2	45	2.5	36.6	43.9	17.0	4.9	65.2	1.0	8.8	3.1	0.07	1.52	1.47	2250	2310	2710	5.0	11,770	78
				3			37.5	45.1	17.4	4.8	66.9	1.0	6.7	3.1	0.08	1.56	1.50					12,070	
				4			45.4	54.6		5.8	81.0	1.3	8.1	3.8	0.09	1.89	1.82					14,620	
	Upper Freeport (No. 7)	961	3	2	33	3.7	36.0	49.9	10.4	5.4	70.4	1.2	10.4	2.3	0.09	1.39	0.78	2150	2240	2410	5.5	12,560	78
				3			37.4	51.8	10.8	5.2	73.1	1.2	7.3	2.3	0.09	1.44	0.81					13,050	
				4			41.9	58.1		5.8	82.0	1.4	8.2	2.6	0.10	1.62	0.91					14,630	
	Not designated	963	3	2	30	2.5	27.1	27.5	42.9	3.7	42.2	0.9	8.2	2.1	0.01	1.48	0.60	2910	2910	2910	1.0	7,580	78
				3			27.8	28.2	44.0	3.5	43.3	0.9	6.1	2.1	0.01	1.52	0.62					7,780	
				4			49.6	50.4		6.3	77.4	1.6	10.9	3.8	0.02	2.71	1.10					13,890	

Sharon	Middle Kittanning (No. 6)	917	3	2	28	2.5	42.2	46.0	9.3	5.4	69.9	1.2	9.8	4.3	0.02	2.84	1.49	2155	2250	2360	3.5	13,080	78
				3			43.3	47.1	9.6	5.3	71.7	1.3	7.8	4.5	0.02	2.91	1.53					13,410	
				4			47.9	52.1		5.8	79.3	1.4	8.6	4.9	0.02	3.22	1.69					14,830	
Stock	Bedford	929	3	2	56	2.2	28.5	22.1	47.2	4.0	40.1	0.8	6.5	1.4	0.03	1.11	0.22	2800	2800	2800	0.5	7,440	78
				3			29.1	22.6	48.3	3.9	41.0	0.8	4.6	1.4	0.03	1.14	0.22					7,610	
				4			56.3	43.7		7.4	79.3	1.5	9.0	2.7	0.06	2.20	0.43					14,710	
		929-1	3	2	23	2.2	21.0	18.7	58.1	2.8	29.1	0.6	6.7	2.7	0.03	2.23	0.47	2800	2800	2800	1.0	5,170	78
				3			21.4	19.2	59.4	2.6	29.8	0.6	4.9	2.8	0.03	2.28	0.49					5,290	
				4			52.8	47.2		6.5	73.3	1.4	12.0	6.9	0.07	5.60	1.19					13,010	
	Brookville (No. 4)	923	3	2	38	1.0	40.2	35.6	23.2	4.7	57.9	1.2	2.7	10.4	0.04	8.97	1.35	2070	2100	2130	3.5	11,080	78
				3			40.6	36.0	23.4	4.6	58.5	1.2	1.9	10.5	0.04	9.05	1.36					11,180	
				4			52.9	47.1		6.0	76.3	1.5	2.4	13.7	0.05	11.82	1.78					14,600	
	Lower Kittanning (No. 5)	922	3	2	27	1.4	37.5	38.0	23.1	4.5	56.5	0.9	4.7	10.4	0.54	8.08	1.75	2080	2110	2140	5.0	10,690	78
				3			38.0	38.6	23.4	4.4	57.3	0.9	3.5	10.5	0.54	8.19	1.78					10,840	
				4			49.7	50.3		5.7	74.8	1.1	4.6	13.7	0.71	10.70	2.32					14,150	
		950	3	2	39	1.8	34.4	41.6	22.2	4.7	60.4	1.0	7.7	3.9	0.13	2.64	1.17	2040	2090	2410	6.0	11,070	78
				3			35.0	42.4	22.6	4.6	61.5	1.1	6.3	4.0	0.13	2.68	1.19					11,270	
				4			45.3	54.7		5.9	79.4	1.4	8.1	5.2	0.17	3.47	1.53					14,560	
	Middle Kittanning (No. 6)	924	3	2	44	1.7	41.9	47.1	9.3	5.3	72.4	1.2	8.5	3.2	0.09	1.68	1.46	2150	2210	2510	5.0	13,170	78
				3			42.7	47.8	9.5	5.2	73.7	1.3	7.1	3.3	0.10	1.71	1.49					13,400	
				4			47.1	52.9		5.7	81.4	1.4	7.8	3.6	0.11	1.88	1.64					14,800	
		927	3	2	33	1.5	40.2	46.0	12.3	5.2	69.3	1.3	6.9	5.0	0.05	2.90	2.03	2005	2105	2205	5.0	12,750	78
				3			40.8	46.7	12.5	5.1	70.3	1.3	5.7	5.1	0.05	2.95	2.07					12,940	
				4			46.7	53.3		5.8	80.4	1.5	6.5	5.8	0.06	3.37	2.36					14,800	
	Upper Freeport (No. 7)	921	3	2	33	2.5	37.0	45.9	14.6	5.1	67.4	1.3	9.0	2.7	0.02	1.81	0.89	2110	2210	2320	4.0	12,180	78
				3			37.9	47.2	14.9	4.9	69.1	1.3	7.0	2.8	0.02	1.86	0.91					12,490	
				4			44.6	55.4		5.8	81.2	1.5	8.2	3.3	0.02	2.18	1.07					14,680	
		926	3	2	45	2.9	34.7	42.7	19.7	4.9	62.8	1.1	8.7	2.8	0.04	1.85	0.87	2355	2455	2555	4.5	11,300	78
				3			35.8	43.9	20.3	4.7	64.6	1.2	6.3	2.8	0.04	1.91	0.89					11,630	
				4			44.9	55.1		5.9	81.1	1.5	7.9	3.6	0.05	2.39	1.12					14,590	
Wayne	Lower Kittanning (No. 5)	949	3	2	30	3.4	41.7	44.4	10.5	5.4	69.9	1.2	9.9	3.1	0.02	1.46	1.60	2055	2155	2255	4.5	12,690	78
				3			43.2	45.9	10.9	5.2	72.4	1.3	7.1	3.2	0.02	1.51	1.65					13,140	
				4			48.5	51.5		5.8	81.2	1.4	8.0	3.6	0.02	1.69	1.85					14,750	
		972	3	2	36	2.9	44.0	45.3	7.8	5.7	72.4	1.3	9.6	3.3	0.05	2.00	1.23	2070	2160	2260	6.0	13,250	78
				3			45.3	46.7	8.0	5.5	74.6	1.4	7.2	3.4	0.05	2.06	1.27					13,650	
				4			49.3	50.7		6.0	81.1	1.5	7.8	3.7	0.06	2.24	1.38					14,840	
		972-1	3	2	7	3.0	25.4	24.6	47.0	3.5	38.9	0.7	7.6	2.2	0.12	1.75	0.35	2510	2620	2710		6,980	78
				3			26.2	25.4	48.4	3.3	40.1	0.7	5.1	2.3	0.12	1.80	0.37					7,190	
				4			50.7	49.3		6.4	77.8	1.3	10.0	4.4	0.24	3.50	0.71					13,940	
	Middle Kittanning (No. 6)	952	3	2	40	2.7	43.0	48.6	5.7	5.6	74.7	1.3	10.3	2.3	0.08	0.71	1.54	2140	2190	2350	4.5	13,550	78
				3			44.1	50.0	5.9	5.5	76.7	1.4	8.2	2.4	0.08	0.73	1.58					13,920	
				4			46.9	53.1		5.8	81.5	1.5	8.7	2.5	0.08	0.77	1.68					14,790	
		971	3	2	31	3.0	41.4	45.7	9.9	5.5	70.3	1.4	9.2	3.7	0.01	2.90	0.75	2055	2155	2250	4.0	12,870	78
				3			42.7	47.1	10.2	5.3	72.5	1.5	6.8	3.8	0.01	3.00	0.77					13,270	
				4			47.6	52.4		5.9	80.7	1.6	7.5	4.2	0.01	3.34	0.86					14,770	

Township	Seam	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)			Ultimate (%)						Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
NOBLE COUNTY (continued)																							
Wayne (continued)	Middle Kittanning (No. 6) (continued)	971-1	3	2	10	2.1	18.6	18.6	60.7	2.4	25.9	0.6	6.0	4.3	0.02	3.21	1.10	2370	2450	2550		4,690	78
				3			19.0	19.0	62.0	2.3	26.4	0.6	4.3	4.4	0.02	3.28	1.12					4,790	
				4			50.1	49.9		5.9	69.6	1.6	11.2	11.6	0.05	8.63	2.96					12,600	
	Lower Freeport (No. 6A)	951	3	2	51	2.8	40.1	47.1	10.0	5.1	69.5	1.2	9.6	4.7	0.38	3.20	1.07	1980	2030	2080	4.5	12,610	78
				3			41.2	48.5	10.3	4.9	71.5	1.2	7.4	4.8	0.39	3.29	1.10					12,970	
				4			45.9	54.1		5.4	79.6	1.4	8.2	5.3	0.44	3.67	1.23					14,460	
	Upper Freeport (No. 7)	948	3	2	39	5.0	28.9	39.6	26.5	4.2	55.2	0.9	10.7	2.4	0.02	1.75	0.68	2505	2615	2705	1.0	9,800	78
				3			30.4	41.7	27.9	3.9	58.1	1.0	6.6	2.6	0.02	1.84	0.71					10,320	
				4			42.2	57.8		5.4	80.5	1.4	9.1	3.6	0.03	2.55	0.99					14,310	
PERRY COUNTY																							
Clayton	Lower Kittanning (No. 5)	1084	2	2	35	6.7	39.1	43.8	10.4	5.7	64.1	1.3	12.8	5.7	0.04	4.38	1.31	1950	2040	2130	4.5	11,720	78
				3			41.9	47.0	11.1	5.3	68.7	1.4	7.3	6.1	0.04	4.69	1.40					12,550	
				4			47.1	52.9		6.0	77.3	1.6	8.3	6.9	0.05	5.28	1.58					14,120	
	Middle Kittanning (No. 6)	1075	2	2	40	6.7	39.7	43.2	10.4	5.7	65.9	1.2	15.0	1.7	0.19	0.35	1.20	2800	2800	2800	4.5	11,890	78
				3			42.6	46.2	11.2	5.3	70.6	1.3	9.7	1.9	0.21	0.38	1.28					12,740	
				4			47.9	52.1		5.9	79.5	1.5	11.0	2.1	0.23	0.43	1.44					14,340	
		1085	2	2	42	10.6	39.5	43.0	6.9	6.0	63.6	1.1	19.4	3.0	0.01	1.14	1.88	1930	2050	2140	1.0	11,470	78
				3			44.2	48.0	7.8	5.4	71.1	1.2	11.1	3.4	0.01	1.27	2.11					12,840	
				4			47.9	52.1		5.9	77.1	1.3	12.1	3.7	0.01	1.38	2.28					13,910	
		1085-1	2	2	14	10.7	29.2	37.2	22.9	4.7	49.5	0.8	20.6	1.4	0.01	1.15	0.22	2420	2530	2610		8,570	78
				3			32.7	41.7	25.6	4.0	55.4	1.0	12.5	1.5	0.01	1.28	0.25					9,600	
				4			44.0	56.0		5.4	74.5	1.3	16.7	2.1	0.01	1.73	0.34					12,900	
Coal	Upper Freeport (No. 7)	1108	2	2	40	6.9	39.9	45.6	7.6	5.7	66.5	1.5	16.0	2.8	0.03	1.51	1.30	1910	2020	2140	3.5	12,240	78
				3			42.9	49.0	8.1	5.3	71.4	1.6	10.6	3.0	0.03	1.62	1.39					13,140	
				4			46.7	53.3		5.7	77.7	1.8	11.5	3.3	0.03	1.76	1.52					14,310	
Jackson	Middle Kittanning (No. 6)	1072	2	2	30	7.6	41.3	46.3	4.8	6.0	68.9	1.3	16.6	2.5	0.01	1.37	1.08	2020	2110	2200	4.5	12,350	78
				3			44.7	50.1	5.2	5.6	74.5	1.4	10.6	2.7	0.01	1.49	1.17					13,360	
				4			47.2	52.8		5.9	78.5	1.5	11.2	2.8	0.01	1.57	1.23					14,090	
		1072-1	2	2	12	7.8	30.1	38.1	24.0	4.8	53.9	1.0	14.7	1.5	0.02	0.56	0.92	2850	2910	2910	1.0	9,540	78
				3			32.7	41.3	26.0	4.3	58.5	1.0	8.5	1.6	0.02	0.61	1.00					10,340	
				4			44.2	55.8		5.8	79.1	1.4	11.5	2.2	0.03	0.82	1.35					13,980	
Madison		1098	2	2	44	9.7	37.7	45.0	7.6	5.7	64.0	1.2	19.4	1.9	0.01	0.37	1.55	2320	2410	2500	1.0	11,470	78
				3			41.7	49.9	8.4	5.2	70.8	1.4	12.0	2.1	0.01	0.41	1.72					12,700	
				4			45.5	54.5		5.6	77.4	1.5	13.1	2.3	0.01	0.45	1.88					13,870	
Monroe		1087	2	2	49	6.4	44.2	41.3	8.1	5.9	66.9	1.1	13.1	4.9	0.03	2.52	2.31	1860	1970	2065	3.5	12,280	78
				3			47.2	44.2	8.6	5.6	71.4	1.2	7.9	5.2	0.03	2.70	2.47					13,120	
				4			51.7	48.3		6.1	78.2	1.3	8.7	5.7	0.03	2.95	2.70					14,350	

Pike	Lower Kittanning (No. 5)	1073	2	2	24	4.4	39.0	50.3	6.3	5.6	71.1	1.5	13.0	2.5	0.01	2.04	0.41	2060	2150	2260	2.0	12,760	78
				3			40.8	52.6	6.6	5.3	74.3	1.6	9.5	2.6	0.01	2.13	0.42					13,340	
				4			43.7	56.3		5.7	79.6	1.7	10.2	2.7	0.01	2.28	0.45					14,290	
		1080	2	2	26	9.6	37.3	46.0	7.1	5.8	65.6	1.3	17.2	2.9	0.01	1.76	1.15	1920	2020	2090	3.0	11,840	78
				3			41.2	50.9	7.9	5.3	72.6	1.5	9.5	3.2	0.01	1.95	1.27					13,090	
				4			44.8	55.2		5.7	78.8	1.6	10.4	3.5	0.01	2.11	1.38					14,220	
	Middle Kittanning (No. 6)	1074	2	2	44	7.3	40.2	43.6	8.9	5.9	65.3	1.2	15.2	3.5	0.01	1.93	1.61	2160	2250	2355	5.5	11,860	78
				3			43.4	47.0	9.6	5.4	70.5	1.3	9.3	3.8	0.01	2.08	1.74					12,790	
				4			48.0	52.0		6.0	78.0	1.5	10.3	4.2	0.01	2.30	1.92					14,150	
		1081	2	2	42	7.3	40.0	46.7	6.0	5.6	69.0	1.3	15.5	2.5	0.01	1.94	0.59	2010	2120	2210	4.0	12,420	78
				3			43.2	50.3	6.5	5.1	74.4	1.4	9.8	2.7	0.01	2.10	0.64					13,390	
				4			46.2	53.8		5.5	79.5	1.5	10.5	2.9	0.01	2.24	0.69					14,330	
Salt Lick		1082	2	2	47	7.6	37.6	45.9	8.9	5.6	66.3	1.2	15.4	2.5	0.01	1.99	0.46	2150	2260	2350	4.5	11,880	78
				3			40.7	49.7	9.6	5.2	71.9	1.3	9.4	2.7	0.01	2.16	0.50					12,850	
				4			45.1	54.9		5.7	79.4	1.5	10.4	2.9	0.01	2.39	0.55					14,220	
	Upper Freeport (No. 7)	1083	2	2	50	7.2	41.6	41.6	9.6	5.6	64.4	1.1	13.4	5.8	0.01	5.57	0.27	2120	2210	2300	4.0	11,850	78
				3			44.8	44.8	10.4	5.2	69.4	1.2	7.6	6.3	0.01	6.00	0.29					12,760	
				4			50.0	50.0		5.8	77.4	1.3	8.5	7.0	0.01	6.69	0.32					14,230	
SCIOTO COUNTY																							
Vernon	Lower Kittanning (No. 5)	912	2	2	25	7.0	40.0	42.4	10.6	5.4	62.5	1.1	16.5	3.9	0.66	2.32	0.90	2080	2160	2460	1.5	11,270	77
				3			43.0	45.6	11.4	4.9	67.2	1.1	11.1	4.2	0.71	2.49	0.97					12,110	
				4			48.6	51.4		5.6	75.9	1.3	12.5	4.7	0.80	2.82	1.09					13,680	
TUSCARAWAS COUNTY																							
Union	Upper Freeport (No. 7)	1058	2	2	35	7.9	31.9	50.8	9.4	5.3	66.8	1.4	16.1	1.0	0.01	0.44	0.58	2360	2450	2560	1.0	11,840	78
				3			34.6	55.2	10.2	4.8	72.6	1.5	9.9	1.1	0.01	0.47	0.63					12,850	
				4			38.6	61.4		5.3	80.8	1.6	11.0	1.2	0.01	0.53	0.70					14,310	
VINTON COUNTY																							
Brown	Clarion (No. 4A)	882	2	2	32	5.9	40.8	42.4	10.9	5.5	65.3	1.2	13.3	3.7	0.18	2.26	1.25	2005	2115	2205	1.5	11,820	77
				3			43.3	45.2	11.5	5.1	69.5	1.3	8.5	3.9	0.20	2.41	1.33					12,570	
				4			49.0	51.0		5.8	78.5	1.5	9.7	4.4	0.22	2.72	1.51					14,210	
		1011	2	2	20	6.2	41.0	43.9	8.9	5.8	66.7	1.3	13.6	3.6	0.07	1.90	1.65	2060	2170	2260	4.0	12,170	78
				3			43.7	46.8	9.5	5.5	71.1	1.4	8.7	3.8	0.07	2.02	1.75					12,970	
				4			48.3	51.7		6.1	78.5	1.5	9.6	4.3	0.08	2.23	1.94					14,340	
	Scrubgrass	1024	2	2	9	5.4	40.2	35.3	19.1	5.2	57.9	1.1	11.4	5.3	0.02	4.04	1.27	2060	2160	2250	4.0	10,750	78
				3			42.5	37.3	20.2	4.9	61.2	1.2	6.9	5.6	0.02	4.27	1.34					11,360	
				4			53.2	46.8		6.1	76.6	1.5	8.7	7.1	0.03	5.35	1.68					14,230	
	Lower Kittanning (No. 5)	883	2	2	31	6.5	37.5	44.1	11.9	5.2	62.3	1.2	14.2	5.1	0.31	3.09	1.74	2005	2105	2205	3.0	11,430	78
				3			40.1	47.2	12.7	4.8	66.6	1.3	9.0	5.5	0.33	3.31	1.86					12,230	
				4			46.0	54.0		5.5	76.3	1.5	10.3	6.3	0.38	3.79	2.13					14,010	
		1023	2	2	23	5.1	39.4	41.7	13.8	5.4	62.7	1.2	11.4	5.5	0.01	3.92	1.57	2100	2210	2320	4.0	11,520	78
				3			41.5	43.9	14.6	5.1	66.0	1.2	7.3	5.8	0.01	4.13	1.66					12,130	
				4			48.6	51.4		6.0	77.3	1.5	8.5	6.8	0.01	4.83	1.94					14,200	
	Middle Kittanning (No. 6)	884	2	2	46	8.1	38.7	46.9	6.3	5.5	68.1	1.4	17.3	1.3	0.04	0.90	0.34	2405	2505	2605	1.5	12,230	77
				3			42.2	50.9	6.9	5.0	74.2	1.5	11.0	1.4	0.04	0.98	0.36					13,310	
				4			45.3	54.7		5.4	79.6	1.6	11.8	1.5	0.04	1.05	0.39					14,290	

Township	Seam	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)			Ultimate (%)						Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Carbon	Hydrogen	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
VINTON COUNTY (continued)																							
Clinton	Winters	854	2	2	33	7.6	37.5	47.2	7.7	5.5	67.4	1.2	16.1	2.1	0.20	1.30	0.64	2140	2190	2470	1.0	11,940	77
				3			40.6	51.1	8.3	5.1	73.0	1.3	10.1	2.3	0.21	1.40	0.70					12,920	
				4			44.3	55.7		5.5	79.6	1.4	11.0	2.5	0.23	1.53	0.76					14,100	
	Clarion (No. 4A)	856	2	2	24	4.3	42.7	42.9	10.1	5.6	66.2	1.3	13.0	3.9	0.11	1.91	1.88	2140	2260	2440	2.0	12,120	77
				3			44.6	44.9	10.5	5.3	69.2	1.3	9.6	4.1	0.11	1.99	1.97					12,660	
				4			49.9	50.1		5.9	77.3	1.5	10.7	4.6	0.13	2.23	2.20					14,150	
		862	2	2	53	5.1	37.6	41.4	15.9	5.0	60.7	1.1	13.5	3.7	0.21	1.63	1.83	2130	2250	2540	1.5	10,960	77
				3			39.6	43.6	16.8	4.7	64.0	1.2	9.4	3.9	0.23	1.71	1.93					11,560	
				4			47.6	52.4		5.7	76.9	1.5	11.3	4.6	0.27	2.06	2.32					13,890	
	Scrubgrass	857	2	2	14	4.9	39.9	40.2	15.0	5.2	62.1	1.3	13.0	3.5	0.17	2.13	1.15	2120	2170	2350	2.0	11,250	77
				3			42.0	42.3	15.7	4.9	65.3	1.4	9.0	3.6	0.18	2.24	1.21					11,840	
				4			49.8	50.2		5.8	77.5	1.6	10.7	4.3	0.22	2.66	1.43					14,050	
	Lawrence	863	2	2	10	4.5	38.3	38.0	19.2	4.9	56.2	1.0	11.3	7.4	0.32	5.53	1.60	1960	2140	2530	1.5	10,410	77
				3			40.1	39.8	20.1	4.6	58.8	1.0	7.7	7.8	0.34	5.79	1.67					10,900	
				4			50.2	49.8		5.7	73.6	1.3	9.6	9.8	0.42	7.24	2.09					13,630	
	Lower Kittanning (No. 5)	855	2	2	40	6.1	40.2	44.3	9.4	5.3	65.0	1.2	15.3	3.8	0.38	2.36	1.04	2130	2230	2580	1.5	11,770	77
				3			42.8	47.2	10.0	4.9	69.3	1.3	10.5	4.0	0.40	2.52	1.11					12,540	
				4			47.5	52.5		5.5	76.9	1.5	11.6	4.5	0.45	2.80	1.23					13,930	
		861	2	2	36	5.7	38.1	44.5	11.7	5.3	63.0	1.2	14.5	4.4	0.32	3.28	0.79	2080	2130	2350	1.0	11,510	77
				3			40.4	47.2	12.4	5.0	66.7	1.3	10.0	4.6	0.33	3.48	0.84					12,200	
				4			46.1	53.9		5.7	76.2	1.4	11.4	5.3	0.38	3.97	0.96					13,930	
		861-1	2	2	27	7.9	36.8	46.8	8.5	5.4	65.3	1.3	16.1	3.4	0.29	2.48	0.63	2020	2070	2350	1.0	11,620	77
				3			40.0	50.8	9.2	4.9	70.9	1.4	9.9	3.7	0.31	2.70	0.68					12,620	
				4			44.1	55.9		5.4	78.1	1.5	10.9	4.1	0.35	2.97	0.75					13,910	
		861-2	2	2	10	3.8	34.1	33.4	28.7	4.0	47.7	0.9	8.8	10.0	0.63	8.01	1.37	2110	2160	2280	1.0	8,810	77
				3			35.4	34.8	29.8	3.7	49.6	0.9	5.6	10.4	0.65	8.33	1.42					9,160	
				4			50.4	49.6		5.3	70.6	1.3	8.0	14.8	0.93	11.87	2.03					13,050	
	Middle Kittanning (No. 6)	895	2	2	25	8.4	35.6	49.1	6.9	5.4	67.1	1.4	17.5	1.7	0.11	0.82	0.73	2140	2250	2600	1.0	11,870	77
				3			38.9	53.6	7.5	4.9	73.3	1.5	10.9	1.8	0.12	0.89	0.79					12,960	
				4			42.1	57.9		5.3	79.3	1.6	11.8	2.0	0.14	0.97	0.86					14,010	
		895-1	2	2	11	7.8	23.9	31.6	36.7	4.1	41.3	1.0	14.3	2.6	0.49	1.70	0.41	2250	2350	2760		7,160	77
				3			26.0	34.2	39.8	3.5	44.8	1.1	8.0	2.8	0.53	1.84	0.45					7,770	
				4			43.1	56.9		5.8	74.4	1.8	13.3	4.7	0.88	3.06	0.75					12,900	
	Lower Freeport (No. 6A)	866	2	2	20	6.5	40.7	41.0	11.8	5.3	62.2	1.0	15.1	4.6	0.60	2.45	1.59	1960	2010	2240	2.5	11,230	77
				3			43.6	43.8	12.6	4.9	66.5	1.1	10.0	5.0	0.64	2.62	1.70					12,010	
				4			49.8	50.2		5.6	76.0	1.3	11.5	5.7	0.73	3.00	1.94					13,730	
		894	2	2	20	6.7	40.8	41.1	11.4	5.4	61.7	1.0	14.9	5.7	0.44	3.54	1.67	1920	1960	2000	3.0	11,260	77
				3			43.7	44.1	12.2	4.9	66.1	1.1	9.6	6.1	0.47	3.80	1.79					12,060	
				4			49.8	50.2		5.6	75.3	1.3	11.0	6.9	0.54	4.32	2.04					13,740	

Elk	Brookville (No. 4)	881	2	2	62	3.6	43.0	42.5	10.9	5.5	66.5	1.2	12.0	3.8	0.05	1.75	2.04	2350	2570	2730	4.0	12,070	77
				3			44.6	44.1	11.3	5.3	69.0	1.3	9.2	4.0	0.05	1.81	2.12					12,520	
				4			50.3	49.7		5.9	77.8	1.5	10.3	4.5	0.06	2.04	2.39					14,120	
		1014	2	2	41	8.5	37.5	45.1	8.9	5.7	65.0	1.3	16.4	2.6	0.98	0.87	0.72	2510	2620	2710	1.0	11,610	78
				3			41.0	49.2	9.8	5.1	71.1	1.5	9.7	2.8	1.07	0.95	0.78					12,690	
				4			45.4	54.6		5.7	78.8	1.6	10.7	3.1	1.19	1.05	0.87					14,060	
	Ogan	1029	2	2	10	6.2	41.9	41.2	10.7	5.5	64.6	1.2	14.2	3.9	0.01	2.00	1.90	2150	2260	2350	4.0	11,900	78
				3			44.6	44.0	11.4	5.1	68.8	1.3	9.2	4.2	0.01	2.13	2.03					12,690	
				4			50.4	49.6		5.7	77.7	1.5	10.4	4.7	0.01	2.41	2.29					14,340	
	Winters	1013	2	2	32	8.5	38.9	42.7	9.9	5.7	63.1	1.3	16.9	3.1	0.17	1.33	1.62	2120	2210	2320	4.0	11,460	78
				3			42.5	46.6	10.9	5.2	68.9	1.4	10.2	3.4	0.19	1.46	1.77					12,530	
				4			47.7	52.3		5.8	77.3	1.6	11.5	3.8	0.21	1.63	1.98					14,050	
		1028	2	2	25	9.1	34.9	49.1	6.9	5.5	67.3	1.4	17.1	1.8	0.01	1.03	0.75	2110	2200	2320	1.5	11,970	78
				3			38.4	54.1	7.5	5.0	74.0	1.5	10.0	2.0	0.01	1.13	0.83					13,160	
				4			41.5	58.5		5.4	80.1	1.6	10.8	2.1	0.01	1.22	0.90					14,240	
	Clarion (No. 4A)	851	2	2	35	5.6	40.1	43.0	11.3	5.5	64.4	1.4	13.6	3.8	0.21	2.26	1.35	2105	2210	2305	1.0	11,750	77
				3			42.5	45.5	12.0	5.2	68.3	1.4	9.1	4.1	0.23	2.39	1.43					12,450	
				4			48.3	51.7		5.9	77.6	1.6	10.4	4.6	0.26	2.72	1.63					14,140	
		851-1	2	2	11	5.4	36.4	38.9	19.3	4.7	56.7	1.3	12.5	5.5	0.45	3.99	1.04	1070	1130	1180	1.0	10,320	77
				3			38.5	41.1	20.4	4.3	59.9	1.4	8.1	5.8	0.48	4.22	1.10					10,910	
				4			48.3	51.7		5.4	75.3	1.7	10.2	7.3	0.60	5.30	1.38					13,700	
		1017	2	2	30	8.6	37.7	48.9	4.8	5.7	68.7	1.4	17.3	1.9	0.02	1.16	0.72	1950	2060	2160	1.0	12,290	78
				3			41.3	53.4	5.3	5.2	75.2	1.6	10.6	2.1	0.02	1.27	0.79					13,440	
				4			43.6	56.4		5.5	79.4	1.7	11.2	2.2	0.02	1.35	0.83					14,200	
		1019	2	2	38	5.4	44.7	42.4	7.5	5.8	68.1	1.3	13.8	3.5	0.04	1.64	1.85	2050	2160	2250	4.0	12,450	78
				3			47.3	44.7	8.0	5.5	72.0	1.3	9.5	3.7	0.04	1.73	1.95					13,160	
				4			51.3	48.7		6.0	78.2	1.5	10.3	4.0	0.04	1.88	2.12					14,300	
		1019-1	2	2	15	5.1	38.9	38.1	17.9	5.2	59.2	1.1	12.4	4.1	0.23	2.62	1.28	2100	2210	2300	2.5	10,840	78
				3			41.0	40.2	18.8	4.9	62.4	1.2	8.3	4.4	0.25	2.76	1.35					11,420	
				4			50.6	49.4		6.1	76.9	1.5	10.2	5.4	0.30	3.40	1.67					14,080	
		1025	2	2	31	6.8	37.5	41.2	14.5	5.4	61.0	1.2	14.3	3.7	0.11	1.91	1.73	2120	2210	2300	1.5	11,040	78
				3			40.3	44.1	15.6	4.9	65.4	1.3	8.9	4.0	0.11	2.05	1.85					11,840	
				4			47.7	52.3		5.8	77.4	1.5	10.5	4.8	0.13	2.42	2.19					14,020	
	Lower Kittanning (No. 5)	1015	2	2	41	7.9	37.8	41.2	13.1	5.5	59.9	1.1	16.0	4.5	0.22	2.79	1.45	2100	2210	2300	3.5	11,090	78
				3			41.0	44.8	14.2	5.0	65.0	1.2	9.7	4.8	0.24	3.03	1.57					12,040	
				4			47.8	52.2		5.8	75.7	1.4	11.3	5.6	0.28	3.53	1.83					14,030	
		1018	2	2	24	6.4	44.4	40.1	9.1	5.9	65.4	1.2	13.8	4.7	0.18	3.12	1.37	2150	2250	2340	4.0	12,060	78
				3			47.4	42.9	9.7	5.5	69.9	1.3	8.7	5.0	0.19	3.34	1.46					12,880	
				4			52.5	47.5		6.1	77.3	1.5	9.6	5.5	0.22	3.69	1.62					14,260	
		1020	2	2	19	4.2	39.6	33.3	22.9	4.9	51.8	1.0	10.0	9.4	0.04	7.98	1.35	2010	2120	2210	3.5	9,670	78
				3			41.3	34.8	23.9	4.6	54.1	1.1	6.6	9.8	0.04	8.32	1.41					10,090	
				4			54.3	45.7		6.0	71.0	1.4	8.7	12.8	0.05	10.93	1.85					13,260	
		1026	2	2	18	9.1	33.2	44.7	13.0	5.4	61.7	1.2	16.3	2.4	0.01	1.45	0.94	2560	2650	2750	1.0	10,830	78
				3			36.6	49.1	14.3	4.8	67.9	1.3	9.1	2.6	0.01	1.60	1.04					11,910	
				4			42.6	57.4		5.6	79.2	1.5	10.6	3.1	0.01	1.86	1.21					13,890	

Township	Seam	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
VINTON COUNTY (continued)																							
Elk (continued)	Middle Kittanning (No. 6)	1016	2	2	34	8.0	40.9	44.0	7.1	5.9	67.5	1.3	15.4	2.8	0.02	1.90	0.84	1955	2055	2155	4.0	12,200	78
				3			44.4	47.9	7.7	5.5	73.4	1.4	9.0	3.0	0.02	2.06	0.92					13,260	
				4			48.1	51.9		5.9	79.5	1.5	9.8	3.3	0.02	2.24	0.99					14,370	
		1021	2	2	22	7.1	37.1	42.3	13.5	5.4	61.5	1.2	16.3	2.1	0.02	1.51	0.62	2510	2620	2710	1.0	11,000	78
				3			39.9	45.6	14.5	4.9	66.2	1.3	10.8	2.3	0.02	1.62	0.67					11,840	
				4			46.7	53.3		5.8	77.4	1.5	12.6	2.7	0.02	1.90	0.78					13,850	
		1027	2	2	21	6.3	42.6	46.4	4.7	5.9	70.9	0.5	15.9	2.0	0.01	0.97	1.01	2110	2200	2310	1.5	12,720	78
				3			45.5	49.4	5.1	5.6	75.7	0.6	11.0	2.1	0.01	1.03	1.08					13,580	
				4			47.9	52.1		5.9	79.7	0.6	11.6	2.2	0.01	1.09	1.14					14,300	
Harrison	Quakertown (No. 2)	1022	2	2	26	11.8	32.7	52.2	3.3	6.1	67.6	1.5	20.7	0.8	0.01	0.15	0.69	2910	2910	2910	1.0	11,990	78
				3			37.1	59.2	3.7	5.4	76.6	1.7	11.6	1.0	0.01	0.17	0.78					13,590	
				4			38.5	61.5		5.6	79.5	1.8	12.1	1.0	0.01	0.17	0.81					14,110	
Madison	Clarion (No. 4A)	843	2	2	55	2.9	38.4	47.2	11.5	5.0	68.0	1.3	10.5	3.6	0.25	2.08	1.28	2005	2105	2205	5.0	12,360	77
				3			39.5	48.7	11.8	4.9	70.1	1.4	8.1	3.7	0.25	2.14	1.31					12,720	
				4			44.8	55.2		5.5	79.5	1.5	9.2	4.2	0.29	2.43	1.49					14,430	
		843-1	2	2	6	4.2	36.5	37.5	21.8	4.8	54.9	1.2	10.4	7.0	0.19	3.81	3.00	2055	2155	2255	1.0	10,220	77
				3			38.1	39.1	22.8	4.5	57.3	1.2	6.9	7.3	0.19	3.98	3.13					10,670	
				4			49.3	50.7		5.8	74.2	1.6	9.0	9.5	0.25	5.16	4.06					13,820	
		843-2	2	2	35	5.8	39.0	45.2	10.0	5.8	66.5	1.3	13.6	2.8	0.18	1.24	1.34	2405	2510	2605	2.0	11,970	77
				3			41.4	48.0	10.6	5.4	70.7	1.4	8.9	2.9	0.20	1.32	1.42					12,710	
				4			46.3	53.7		6.1	79.0	1.6	10.0	3.3	0.22	1.47	1.59					14,210	
		843-3	2	2	14	5.0	40.4	38.0	16.6	5.3	60.1	1.2	11.9	4.9	0.21	2.79	1.92	2005	2115	2205	4.5	11,110	77
				3			42.5	40.0	17.5	5.0	63.3	1.2	7.8	5.2	0.22	2.94	2.03					11,700	
				4			51.6	48.4		6.1	76.7	1.5	9.4	6.3	0.26	3.56	2.46					14,170	
Richland	Brookville (No. 4)	885	2	2	51	7.8	36.6	41.7	13.9	5.3	61.0	1.3	16.2	2.3	0.08	0.89	1.34	2910	2910	2910	1.0	10,810	77
				3			39.7	45.2	15.1	4.8	66.2	1.4	10.1	2.5	0.09	0.96	1.46					11,730	
				4			46.7	53.3		5.6	78.0	1.6	11.9	3.0	0.11	1.14	1.72					13,810	
Swan	Clarion (No. 4A)	853	2	2	30	6.7	40.1	42.2	11.0	5.5	63.7	1.3	15.0	3.6	0.43	2.02	1.11	2015	2105	2200	1.5	11,620	77
				3			43.0	45.2	11.8	5.1	68.2	1.4	9.7	3.8	0.46	2.16	1.19					12,450	
				4			48.7	51.3		5.8	77.4	1.5	11.0	4.3	0.52	2.45	1.35					14,110	
		853-1	2	2	13	6.1	34.2	40.5	19.2	4.8	56.9	1.3	13.0	4.9	0.26	3.87	0.80	1065	1125	1175	1.0	10,300	77
				3			36.4	43.1	20.4	4.4	60.6	1.4	8.1	5.2	0.28	4.12	0.85					10,970	
				4			45.8	54.2		5.5	76.2	1.7	10.1	6.6	0.35	5.18	1.07					13,790	
Wilkesville		867	2	2	49	6.1	39.5	45.2	9.2	5.4	65.4	1.2	15.4	3.4	0.32	1.32	1.72	2020	2070	2380	2.5	11,840	77
				3			42.1	48.1	9.8	5.0	69.7	1.3	10.6	3.6	0.34	1.41	1.83					12,620	
				4			46.7	53.3		5.6	77.3	1.4	11.7	4.0	0.37	1.57	2.03					14,000	

WASHINGTON COUNTY																							
Adams	Lower Kittanning (No. 5)	916	3	2	30	2.8	35.9	49.3	12.0	5.2	70.3	1.3	8.9	2.4	0.01	2.03	0.37	2055	2155	2255	5.0	12,620	78
				3			36.9	50.8	12.3	5.0	72.3	1.3	6.6	2.5	0.01	2.09	0.38					12,980	
				4			42.1	57.9		5.8	82.4	1.5	7.5	2.8	0.01	2.38	0.43					14,810	
Aurelius	Meigs Creek (No. 9)	1109	2	2	42	3.1	38.0	45.9	13.0	5.2	67.1	1.3	9.5	3.9	0.03	1.63	2.23	2060	2160	2250	4.0	12,220	78
				3			39.2	47.3	13.5	5.0	69.3	1.3	7.0	4.0	0.03	1.68	2.30					12,610	
				4			45.3	54.7		5.8	80.0	1.5	8.1	4.6	0.04	1.95	2.66					14,570	

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TABLE 2.–*Proximate-ultimate coal analyses by bed*

Key to symbols by column:

OGS file no.:

3- or 4-digit number - production bench or whole-bed channel or core sample; taken in conformity with Holmes, 1911; Fieldner and Selvig, 1938

-1, -2, -3 - samples taken in benches or from roof or floor coal

Kind:

1 - channel (underground mine)
2 - channel (strip mine)
3 - core

Condition:

2 - as received
3 - moisture-free
4 - moisture- and ash-free

Analyzed thickness:

[1] - upper bench, not complete thickness
[2] - 29 and 15 inches of coal separated by file no. 878-1
[3] - section of coal and shaly bone coal between two benches of file no. 878
[4] - uppermost bench of coal and shale
[5] - complete bed
[6] - middle bench of file no. 841

Source of all analyses is U.S. Department of Energy.

County	Township	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
SHARON (NO. 1) COAL																							
Jackson	Jackson	901	2	2	25	9.2	35.5	46.5	8.8	5.5	65.3	1.3	18.1	1.0	0.07	0.36	0.55	2910	2910	2910	0.5	11,450	77
				3			39.0	51.3	9.7	4.9	71.9	1.4	10.9	1.1	0.08	0.40	0.61					12,610	
				4			43.3	56.7		5.5	79.7	1.6	12.1	1.2	0.09	0.44	0.68					13,970	
	Liberty	911	2	2	34	11.6	32.2	47.1	9.1	5.3	62.8	1.2	21.0	0.6	0.03	0.04	0.53	2910	2910	2910	0.5	10,660	77
				3			36.4	53.3	10.3	4.5	71.1	1.4	12.1	0.7	0.03	0.05	0.59					12,060	
				4			40.6	59.4		5.0	79.3	1.5	13.5	0.7	0.03	0.05	0.66					13,440	
QUAKERTOWN (NO. 2) COAL																							
Vinton	Harrison	1022	2	2	26	11.8	32.7	52.2	3.3	6.1	67.6	1.5	20.7	0.8	0.01	0.15	0.69	2910	2910	2910	1.0	11,990	78
				3			37.1	59.2	3.7	5.4	76.6	1.7	11.6	1.0	0.01	0.17	0.78					13,590	
				4			38.5	61.5		5.6	79.5	1.8	12.1	1.0	0.01	0.17	0.81					14,110	
Licking	Bowling Green	1088	2	2	24	7.2	34.0	45.6	13.2	5.6	64.2	1.2	14.9	0.9	0.02	0.44	0.48	2800	2800	2800	1.0	11,420	78
				3			36.6	49.2	14.2	5.2	69.1	1.3	9.2	1.0	0.02	0.47	0.52					12,310	
				4			42.7	57.3		6.0	80.6	1.5	10.7	1.2	0.02	0.55	0.61					14,350	
UPPER MERCER (NO. 3A) COAL																							
Hocking	Washington	886	2	2	41	6.9	34.4	48.3	10.4	5.1	65.7	1.4	15.2	2.2	0.12	1.34	0.73	2800	2800	2800	1.0	11,580	77
				3			37.0	51.8	11.2	4.6	70.6	1.5	9.7	2.3	0.12	1.44	0.78					12,450	
				4			41.6	58.4		5.2	79.5	1.6	11.0	2.6	0.14	1.62	0.88					14,010	
BEDFORD COAL																							
Noble	Stock	929	3	2	56	2.2	28.5	22.1	47.2	4.0	40.1	0.8	6.5	1.4	0.03	1.11	0.22	2800	2800	2800	0.5	7,440	78
				3			29.1	22.6	48.3	3.9	41.0	0.8	4.6	1.4	0.03	1.14	0.22					7,610	
				4			56.3	43.7		7.4	79.3	1.5	9.0	2.7	0.06	2.20	0.43					14,710	
		929-1	3	2	23	2.2	21.0	18.7	58.1	2.8	29.1	0.6	6.7	2.7	0.03	2.23	0.47	2800	2800	2800	1.0	5,170	78
				3			21.4	19.2	59.4	2.6	29.8	0.6	4.9	2.8	0.03	2.28	0.49					5,290	
				4			52.8	47.2		6.5	73.3	1.4	12.0	6.9	0.07	5.60	1.19					13,010	
BROOKVILLE (NO. 4) COAL																							
Belmont	Washington	988	3	2	29	1.8	41.2	44.5	12.5	5.4	69.8	1.3	8.7	2.3	0.01	1.24	1.08	2680	2780	2910	5.0	12,900	78
				3			42.0	45.3	12.7	5.3	71.1	1.3	7.2	2.4	0.01	1.26	1.10					13,140	
				4			48.1	51.9		6.1	81.4	1.5	8.2	2.7	0.02	1.44	1.26					15,050	
Monroe	Seneca	938	3	2	44	1.5	36.8	36.9	24.8	4.7	56.4	1.1	6.6	6.3	0.04	5.01	1.27	2110	2210	2305	4.5	10,790	78
				3			37.3	37.5	25.2	4.6	57.3	1.1	5.3	6.4	0.04	5.08	1.29					10,950	
				4			49.9	50.1		6.2	76.6	1.5	7.1	8.6	0.05	6.80	1.73					14,650	
Noble	Marion	946	3	2	29	1.9	41.7	41.6	14.8	5.2	68.1	1.3	7.4	3.1	0.01	1.79	1.31	2455	2555	2650	4.5	12,450	78
				3			42.5	42.4	15.1	5.1	69.4	1.3	5.9	3.2	0.01	1.82	1.34					12,690	
				4			50.0	50.0		6.0	81.7	1.6	6.9	3.7	0.01	2.15	1.57					14,940	
	Stock	923	3	2	38	1.0	40.2	35.6	23.2	4.7	57.9	1.2	2.7	10.4	0.04	8.97	1.35	2070	2100	2130	3.5	11,080	78
				3			40.6	36.0	23.4	4.6	58.5	1.2	1.9	10.5	0.04	9.05	1.36					11,180	
				4			52.9	47.1		6.0	76.3	1.5	2.4	13.7	0.05	11.82	1.78					14,600	
Vinton	Elk	881	2	2	62	3.6	43.0	42.5	10.9	5.5	66.5	1.2	12.0	3.8	0.05	1.75	2.04	2350	2570	2730	4.0	12,070	77
				3			44.6	44.1	11.3	5.3	69.0	1.3	9.2	4.0	0.05	1.81	2.12					12,520	
				4			50.3	49.7		5.9	77.8	1.5	10.3	4.5	0.06	2.04	2.39					14,120	

		1014	2	2	41	8.5	37.5	45.1	8.9	5.7	65.0	1.3	16.4	2.6	0.98	0.87	0.72	2510	2620	2710	1.0	11,610	78
				3			41.0	49.2	9.8	5.1	71.1	1.5	9.7	2.8	1.07	0.95	0.78					12,690	
				4			45.4	54.6		5.7	78.8	1.6	10.7	3.1	1.19	1.05	0.87					14,060	
	Richland	885	2	2	51	7.8	36.6	41.7	13.9	5.3	61.0	1.3	16.2	2.3	0.08	0.89	1.34	2910	2910	2910	1.0	10,810	77
				3			39.7	45.2	15.1	4.8	66.2	1.4	10.1	2.5	0.09	0.96	1.46					11,730	
				4			46.7	53.3		5.6	78.0	1.6	11.9	3.0	0.11	1.14	1.72					13,810	
OGAN COAL																							
Vinton	Elk	1029	2	2	10	6.2	41.9	41.2	10.7	5.5	64.6	1.2	14.2	3.9	0.01	2.00	1.90	2150	2260	2350	4.0	11,900	78
				3			44.6	44.0	11.4	5.1	68.8	1.3	9.2	4.2	0.01	2.13	2.03					12,690	
				4			50.4	49.6		5.7	77.7	1.5	10.4	4.7	0.01	2.41	2.29					14,340	
WINTERS COAL																							
Vinton	Clinton	854	2	2	33	7.6	37.5	47.2	7.7	5.5	67.4	1.2	16.1	2.1	0.20	1.30	0.64	2140	2190	2470	1.0	11,940	77
				3			40.6	51.1	8.3	5.1	73.0	1.3	10.1	2.3	0.21	1.40	0.70					12,920	
				4			44.3	55.7		5.5	79.6	1.4	11.0	2.5	0.23	1.53	0.76					14,100	
	Elk	1013	2	2	32	8.5	38.9	42.7	9.9	5.7	63.1	1.3	16.9	3.1	0.17	1.33	1.62	2120	2210	2320	4.0	11,460	78
				3			42.5	46.6	10.9	5.2	68.9	1.4	10.2	3.4	0.19	1.46	1.77					12,530	
				4			47.7	52.3		5.8	77.3	1.6	11.5	3.8	0.21	1.63	1.98					14,050	
		1028	2	2	25	9.1	34.9	49.1	6.9	5.5	67.3	1.4	17.1	1.8	0.01	1.03	0.75	2110	2200	2320	1.5	11,970	78
				3			38.4	54.1	7.5	5.0	74.0	1.5	10.0	2.0	0.01	1.13	0.83					13,160	
				4			41.5	58.5		5.4	80.1	1.6	10.8	2.1	0.01	1.22	0.90					14,240	
CLARION (NO. 4A) COAL																							
Hocking	Washington	852	2	2	20	3.4	40.6	44.3	11.7	5.2	66.5	1.3	11.9	3.3	0.30	1.80	1.24	2005	2115	2205	1.5	11,990	77
				3			42.0	45.9	12.1	5.0	68.9	1.3	9.2	3.5	0.31	1.86	1.28					12,420	
				4			47.8	52.2		5.7	78.4	1.5	10.4	3.9	0.35	2.12	1.46					14,130	
		860	2	2	18	3.4	42.3	40.4	13.9	5.3	62.9	1.2	10.4	6.4	0.11	4.73	1.58	2000	2140	2330	3.0	11,710	77
				3			43.8	41.9	14.3	5.1	65.1	1.3	7.6	6.6	0.11	4.90	1.63					12,130	
				4			51.1	48.9		5.9	76.0	1.5	8.9	7.8	0.13	5.72	1.91					14,160	
		1012	2	2	29	10.1	39.6	44.6	5.7	5.9	66.0	1.3	18.8	2.4	0.09	0.87	1.46	2110	2200	2310	1.5	11,780	78
				3			44.0	49.7	6.3	5.3	73.4	1.4	11.0	2.7	0.10	0.96	1.63					13,090	
				4			47.0	53.0		5.6	78.3	1.5	11.7	2.9	0.11	1.03	1.74					13,870	
Jackson	Bloomfield	872	2	2	35	7.7	38.4	41.5	12.4	5.1	59.8	1.1	14.9	6.6	0.56	5.01	1.05	2005	2115	2205	1.5	11,010	77
				3			41.6	45.0	13.4	4.6	64.8	1.2	8.7	7.2	0.60	5.42	1.13					11,930	
				4			48.1	51.9		5.4	74.9	1.4	10.0	8.3	0.70	6.27	1.31					13,790	
		900	2	2	39	13.5	37.3	38.2	11.0	5.2	57.4	1.1	23.0	2.3	0.11	0.58	1.57	2140	2190	2350	1.0	10,060	77
				3			43.1	44.2	12.7	4.3	66.4	1.3	12.7	2.6	0.13	0.67	1.81					11,630	
				4			49.3	50.7		4.9	76.0	1.5	14.6	3.0	0.15	0.76	2.08					13,320	
	Franklin	899	2	2	39	7.6	37.6	40.8	14.0	5.1	59.1	0.8	14.3	6.7	0.50	4.37	1.80	1930	1980	2180	1.0	10,550	77
				3			40.7	44.2	15.1	4.6	64.0	0.9	8.2	7.2	0.54	4.73	1.95					11,420	
				4			48.0	52.0		5.4	75.3	1.0	9.7	8.5	0.64	5.57	2.30					13,450	
	Jefferson	905	2	2	36	6.2	38.2	41.6	14.0	5.0	59.9	1.1	15.5	4.4	0.44	2.18	1.82	2080	2180	2460	1.0	10,850	77
				3			40.7	44.4	14.9	4.6	63.9	1.1	10.6	4.7	0.47	2.33	1.95					11,570	
				4			47.8	52.2		5.4	75.2	1.3	12.5	5.6	0.55	2.74	2.29					13,600	
	Madison	868	2	2	48	6.1	41.5	42.9	9.5	5.5	65.1	1.3	14.3	4.3	0.30	2.13	1.89	1980	2030	2450	1.5	11,800	77
				3			44.2	45.7	10.1	5.1	69.3	1.3	9.5	4.6	0.32	2.27	2.01					12,560	
				4			49.2	50.8		5.7	77.1	1.5	10.6	5.1	0.36	2.52	2.23					13,980	
	Milton	871	1	2	36	5.5	37.6	39.5	17.4	4.8	57.1	1.2	14.7	4.8	0.70	2.68	1.42	1980	2070	2450	1.0	10,440	77
				3			39.8	41.8	18.4	4.5	60.4	1.3	10.4	5.1	0.74	2.84	1.50					11,040	
				4			48.8	51.2		5.5	74.0	1.6	12.7	6.2	0.91	3.48	1.84					13,530	

County	Township	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
CLARION (NO. 4A) COAL (continued)																							
Lawrence	Washington	903	2	2	38	7.0	38.0	42.4	12.6	5.0	61.3	1.1	16.3	3.7	0.47	1.64	1.62	2020	2130	2590	1.0	10,970	77
				3			40.9	45.6	13.5	4.6	65.9	1.1	10.9	4.0	0.51	1.76	1.74					11,790	
				4			47.3	52.7		5.3	76.2	1.3	12.6	4.6	0.59	2.03	2.01					13,630	
Vinton	Brown	882	2	2	32	5.9	40.8	42.4	10.9	5.5	65.3	1.2	13.3	3.7	0.18	2.26	1.25	2005	2115	2205	1.5	11,820	77
				3			43.3	45.2	11.5	5.1	69.5	1.3	8.5	3.9	0.20	2.41	1.33					12,570	
				4			49.0	51.0		5.8	78.5	1.5	9.7	4.4	0.22	2.72	1.51					14,210	
		1011	2	2	20	6.2	41.0	43.9	8.9	5.8	66.7	1.3	13.6	3.6	0.07	1.90	1.65	2060	2170	2260	4.0	12,170	78
				3			43.7	46.8	9.5	5.5	71.1	1.4	8.7	3.8	0.07	2.02	1.75					12,970	
				4			48.3	51.7		6.1	78.5	1.5	9.6	4.3	0.08	2.23	1.94					14,340	
	Clinton	856	2	2	24	4.3	42.7	42.9	10.1	5.6	66.2	1.3	13.0	3.9	0.11	1.91	1.88	2140	2260	2440	2.0	12,120	77
				3			44.6	44.9	10.5	5.3	69.2	1.3	9.6	4.1	0.11	1.99	1.97					12,660	
				4			49.9	50.1		5.9	77.3	1.5	10.7	4.6	0.13	2.23	2.20					14,150	
		862	2	2	53	5.1	37.6	41.4	15.9	5.0	60.7	1.1	13.5	3.7	0.21	1.63	1.83	2130	2250	2540	1.5	10,960	77
				3			39.6	43.6	16.8	4.7	64.0	1.2	9.4	3.9	0.23	1.71	1.93					11,560	
				4			47.6	52.4		5.7	76.9	1.5	11.3	4.6	0.27	2.06	2.32					13,890	
	Elk	851	2	2	35	5.6	40.1	43.0	11.3	5.5	64.4	1.4	13.6	3.8	0.21	2.26	1.35	2105	2210	2305	1.0	11,750	77
				3			42.5	45.5	12.0	5.2	68.3	1.4	9.1	4.1	0.23	2.39	1.43					12,450	
				4			48.3	51.7		5.9	77.6	1.6	10.4	4.6	0.26	2.72	1.63					14,140	
		851-1	2	2	11	5.4	36.4	38.9	19.3	4.7	56.7	1.3	12.5	5.5	0.45	3.99	1.04	1070	1130	1180	1.0	10,320	77
				3			38.5	41.1	20.4	4.3	59.9	1.4	8.1	5.8	0.48	4.22	1.10					10,910	
				4			48.3	51.7		5.4	75.3	1.7	10.2	7.3	0.60	5.30	1.38					13,700	
		1017	2	2	30	8.6	37.7	48.9	4.8	5.7	68.7	1.4	17.3	1.9	0.02	1.16	0.72	1950	2060	2160	1.0	12,290	78
				3			41.3	53.4	5.3	5.2	75.2	1.6	10.6	2.1	0.02	1.27	0.79					13,440	
				4			43.6	56.4		5.5	79.4	1.7	11.2	2.2	0.02	1.35	0.83					14,200	
		1019	2	2	38	5.4	44.7	42.4	7.5	5.8	68.1	1.3	13.8	3.5	0.04	1.64	1.85	2050	2160	2250	4.0	12,450	78
				3			47.3	44.7	8.0	5.5	72.0	1.3	9.5	3.7	0.04	1.73	1.95					13,160	
				4			51.3	48.7		6.0	78.2	1.5	10.3	4.0	0.04	1.88	2.12					14,300	
		1019-1	2	2	15	5.1	38.9	38.1	17.9	5.2	59.2	1.1	12.4	4.1	0.23	2.62	1.28	2100	2210	2300	2.5	10,840	78
				3			41.0	40.2	18.8	4.9	62.4	1.2	8.3	4.4	0.25	2.76	1.35					11,420	
				4			50.6	49.4		6.1	76.9	1.5	10.2	5.4	0.30	3.40	1.67					14,080	
		1025	2	2	31	6.8	37.5	41.2	14.5	5.4	61.0	1.2	14.3	3.7	0.11	1.91	1.73	2120	2210	2300	1.5	11,040	78
				3			40.3	44.1	15.6	4.9	65.4	1.3	8.9	4.0	0.11	2.05	1.85					11,840	
				4			47.7	52.3		5.8	77.4	1.5	10.5	4.8	0.13	2.42	2.19					14,020	
	Madison	843	2	2	55	2.9	38.4	47.2	11.5	5.0	68.0	1.3	10.5	3.6	0.25	2.08	1.28	2005	2105	2205	5.0	12,360	77
				3			39.5	48.7	11.8	4.9	70.1	1.4	8.1	3.7	0.25	2.14	1.31					12,720	
				4			44.8	55.2		5.5	79.5	1.5	9.2	4.2	0.29	2.43	1.49					14,430	
		843-1	2	2	6	4.2	36.5	37.5	21.8	4.8	54.9	1.2	10.4	7.0	0.19	3.81	3.00	2055	2155	2255	1.0	10,220	77
				3			38.1	39.1	22.8	4.5	57.3	1.2	6.9	7.3	0.19	3.98	3.13					10,670	
				4			49.3	50.7		5.8	74.2	1.6	9.0	9.5	0.25	5.16	4.06					13,820	

		843-2	2	2	35	5.8	39.0	45.2	10.0	5.8	66.5	1.3	13.6	2.8	0.18	1.24	1.34	2405	2510	2605	2.0	11,970	77
				3			41.4	48.0	10.6	5.4	70.7	1.4	8.9	2.9	0.20	1.32	1.42					12,710	
				4			46.3	53.7		6.1	79.0	1.6	10.0	3.3	0.22	1.47	1.59					14,210	
		843-3	2	2	14	5.0	40.4	38.0	16.6	5.3	60.1	1.2	11.9	4.9	0.21	2.79	1.92	2005	2115	2205	4.5	11,110	77
				3			42.5	40.0	17.5	5.0	63.3	1.2	7.8	5.2	0.22	2.94	2.03					11,700	
				4			51.6	48.4		6.1	76.7	1.5	9.4	6.3	0.26	3.56	2.46					14,170	
	Swan	853	2	2	30	6.7	40.1	42.2	11.0	5.5	63.7	1.3	15.0	3.6	0.43	2.02	1.11	2015	2105	2200	1.5	11,620	77
				3			43.0	45.2	11.8	5.1	68.2	1.4	9.7	3.8	0.46	2.16	1.19					12,450	
				4			48.7	51.3		5.8	77.4	1.5	11.0	4.3	0.52	2.45	1.35					14,110	
		853-1	2	2	13	6.1	34.2	40.5	19.2	4.8	56.9	1.3	13.0	4.9	0.26	3.87	0.80	1065	1125	1175	1.0	10,300	77
				3			36.4	43.1	20.4	4.4	60.6	1.4	8.1	5.2	0.28	4.12	0.85					10,970	
				4			45.8	54.2		5.5	76.2	1.7	10.1	6.6	0.35	5.18	1.07					13,790	
	Wilkesville	867	2	2	49	6.1	39.5	45.2	9.2	5.4	65.4	1.2	15.4	3.4	0.32	1.32	1.72	2020	2070	2380	2.5	11,840	77
				3			42.1	48.1	9.8	5.0	69.7	1.3	10.6	3.6	0.34	1.41	1.83					12,620	
				4			46.7	53.3		5.6	77.3	1.4	11.7	4.0	0.37	1.57	2.03					14,000	
SCRUBGRASS COAL																							
Vinton	Brown	1024	2	2	9	5.4	40.2	35.3	19.1	5.2	57.9	1.1	11.4	5.3	0.02	4.04	1.27	2060	2160	2250	4.0	10,750	78
				3			42.5	37.3	20.2	4.9	61.2	1.2	6.9	5.6	0.02	4.27	1.34					11,360	
				4			53.2	46.8		6.1	76.6	1.5	8.7	7.1	0.03	5.35	1.68					14,230	
	Clinton	857	2	2	14	4.9	39.9	40.2	15.0	5.2	62.1	1.3	13.0	3.5	0.17	2.13	1.15	2120	2170	2350	2.0	11,250	77
				3			42.0	42.3	15.7	4.9	65.3	1.4	9.0	3.6	0.18	2.24	1.21					11,840	
				4			49.8	50.2		5.8	77.5	1.6	10.7	4.3	0.22	2.66	1.43					14,050	
LAWRENCE COAL																							
Vinton	Clinton	863	2	2	10	4.5	38.3	38.0	19.2	4.9	56.2	1.0	11.3	7.4	0.32	5.53	1.60	1960	2140	2530	1.5	10,410	77
				3			40.1	39.8	20.1	4.6	58.8	1.0	7.7	7.8	0.34	5.79	1.67					10,900	
				4			50.2	49.8		5.7	73.6	1.3	9.6	9.8	0.42	7.24	2.09					13,630	
LOWER KITTANNING (NO. 5) COAL																							
Belmont	Somerset	977	3	2	33	2.5	39.5	45.0	13.0	5.3	68.7	1.3	7.3	4.4	0.05	1.61	2.73	2000	2080	2160	7.0	12,560	78
				3			40.5	46.1	13.4	5.1	70.5	1.3	5.2	4.5	0.05	1.65	2.80					12,880	
				4			46.7	53.3		5.9	81.3	1.5	6.0	5.2	0.06	1.91	3.23					14,870	
		979	3	2	37	2.9	41.0	45.9	10.2	5.4	71.6	1.3	8.7	2.8	0.01	1.13	1.62	2070	2190	2290	6.5	12,970	78
				3			42.2	47.3	10.5	5.3	73.7	1.3	6.3	2.8	0.01	1.17	1.66					13,360	
				4			47.2	52.8		5.9	82.4	1.5	7.1	3.2	0.01	1.30	1.86					14,920	
		979-1	3	2	14	2.7	27.6	29.2	40.5	3.9	45.6	0.8	7.1	2.1	0.01	1.18	0.93	2480	2590	2680	1.5	8,220	78
				3			28.4	29.9	41.7	3.7	46.9	0.8	4.8	2.2	0.01	1.21	0.95					8,450	
				4			48.6	51.4		6.3	80.4	1.4	8.2	3.7	0.02	2.07	1.64					14,490	
	Warren	986	3	2	29	2.3	42.5	41.9	13.3	5.2	67.3	1.3	8.4	4.4	0.02	2.62	1.76	1960	2080	2170	5.5	12,440	78
				3			43.5	42.9	13.6	5.1	68.9	1.3	6.5	4.5	0.02	2.68	1.81					12,720	
				4			50.3	49.7		5.9	79.8	1.5	7.6	5.2	0.02	3.10	2.09					14,730	
		986-1	3	2	6	2.9	27.5	26.4	43.2	3.6	41.6	0.7	6.3	4.6	0.02	2.26	2.32	2130	2240	2350	1.0	7,570	78
				3			28.4	27.1	44.5	3.4	42.9	0.7	3.9	4.7	0.02	2.33	2.39					7,790	
				4			51.1	48.9		6.0	77.2	1.3	6.9	8.5	0.04	4.19	4.30					14,030	
	Wayne	970	3	2	41	1.8	34.3	38.2	25.7	4.5	59.8	1.1	6.2	2.7	0.01	1.50	1.16	2910	2910	2910	6.5	10,870	78
				3			34.9	38.9	26.2	4.4	60.9	1.1	4.6	2.7	0.01	1.53	1.18					11,070	
				4			47.3	52.7		6.0	82.5	1.5	6.3	3.7	0.01	2.07	1.60					15,000	
Coshocton	Bethlehem	1123	2	2	22	4.3	42.0	43.4	10.3	5.4	65.8	1.4	11.1	6.0	0.09	3.64	2.32	2060	2150	2260	4.0	12,190	78
				3			43.9	45.3	10.8	5.2	68.8	1.4	7.6	6.3	0.09	3.80	2.42					12,740	
				4			49.2	50.8		5.8	77.1	1.6	8.5	7.1	0.10	4.26	2.72					14,280	

County	Township	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
LOWER KITTANNING (NO. 5) COAL (continued)																							
Coshocton (continued)	Keene	1112	2	2	29	6.1	37.6	43.6	12.7	5.4	60.9	1.3	12.5	7.1	0.50	4.26	2.34	2010	2100	2190	3.5	11,340	78
				3			40.1	46.3	13.6	5.0	64.9	1.4	7.5	7.6	0.53	4.54	2.49					12,080	
				4			46.3	53.7		5.8	75.1	1.6	8.7	8.8	0.62	5.25	2.89					13,980	
	Lafayette	1114	2	2	33	5.4	40.3	46.6	7.7	5.5	68.8	1.5	13.0	3.6	0.01	2.57	0.99	1950	2060	2150	4.5	12,540	78
				3			42.6	49.3	8.1	5.2	72.7	1.6	8.7	3.8	0.01	2.72	1.04					13,250	
				4			46.4	53.6		5.6	79.1	1.7	9.5	4.1	0.01	2.96	1.14					14,420	
	Mill Creek	1120	2	2	22	5.0	40.3	42.7	12.0	5.5	64.2	1.5	12.4	4.4	0.01	2.58	1.86	1960	2050	2160	4.5	11,800	78
				3			42.4	45.0	12.6	5.2	67.6	1.5	8.4	4.7	0.01	2.71	1.96					12,430	
				4			48.6	51.4		5.9	77.4	1.8	9.6	5.4	0.01	3.11	2.24					14,220	
		1121	2	2	35	4.7	39.6	41.1	14.6	5.3	60.6	1.3	11.5	6.5	0.06	4.67	1.82	1990	2100	2200	4.0	11,540	78
				3			41.6	43.1	15.3	5.1	63.6	1.4	7.7	6.9	0.06	4.90	1.90					12,110	
				4			49.1	50.9		6.0	75.1	1.7	9.1	8.1	0.07	5.78	2.25					14,300	
	Oxford	1116	2	2	35	5.0	40.7	46.6	7.7	5.5	69.3	1.4	12.7	3.3	0.01	1.67	1.58	2000	2110	2200	4.5	12,620	78
				3			42.9	49.0	8.1	5.3	72.9	1.5	8.7	3.4	0.01	1.75	1.66					13,290	
				4			46.7	53.3		5.7	79.4	1.6	9.5	3.7	0.01	1.91	1.81					14,470	
		1122	2	2	39	5.0	41.0	47.2	6.8	5.8	70.6	1.5	12.6	2.7	0.01	1.22	1.48	2010	2120	2210	3.0	12,820	78
				3			43.1	49.7	7.2	5.5	74.3	1.6	8.5	2.9	0.01	1.29	1.56					13,490	
				4			46.5	53.5		5.9	80.1	1.7	9.2	3.1	0.01	1.39	1.68					14,540	
Guernsey	Millwood	967	3	2	32	3.5	31.0	34.4	31.1	4.2	51.7	0.9	7.9	4.1	0.01	2.56	1.50	2050	2160	2240	4.0	9,460	78
				3			32.1	35.6	32.3	4.0	53.6	1.0	5.0	4.2	0.01	2.65	1.56					9,800	
				4			47.3	52.7		5.9	79.1	1.4	7.4	6.2	0.02	3.92	2.30					14,460	
Hocking	Green	893	2	2	24	6.0	40.6	41.5	11.9	5.3	63.5	1.1	13.1	5.1	0.39	3.59	1.15	1940	1990	2220	2.5	11,380	77
				3			43.2	44.1	12.7	4.9	67.5	1.2	8.3	5.5	0.42	3.82	1.23					12,100	
				4			49.4	50.6		5.6	77.3	1.4	9.5	6.3	0.48	4.37	1.40					13,860	
	Starr	896	2	2	29	6.0	38.5	42.3	13.2	5.1	59.5	1.2	14.7	6.4	0.69	4.03	1.69	1980	2060	2410	2.5	11,030	77
				3			40.9	45.1	14.0	4.7	63.2	1.3	9.9	6.8	0.73	4.28	1.80					11,730	
				4			47.6	52.4		5.4	73.6	1.5	11.6	7.9	0.85	4.98	2.09					13,650	
	Ward	891	2	2	39	9.9	39.8	47.1	3.2	5.8	68.3	1.2	20.3	1.2	0.37	0.16	0.69	2140	2190	2490	1.0	12,060	77
				3			44.2	52.2	3.6	5.2	75.8	1.3	12.7	1.3	0.41	0.17	0.76					13,390	
				4			45.8	54.2		5.4	78.6	1.4	13.2	1.4	0.42	0.18	0.79					13,890	
Jackson	Bloomfield	859	2	2	46	6.6	39.9	41.9	11.6	5.4	63.3	1.3	15.3	3.1	0.29	2.01	0.78	2130	2180	2520	1.0	11,360	77
				3			42.7	44.9	12.4	4.9	67.8	1.4	10.1	3.3	0.32	2.15	0.84					12,170	
				4			48.8	51.2		5.6	77.4	1.6	11.5	3.8	0.36	2.45	0.96					13,900	
	Madison	869	2	2	28	10.6	32.0	46.9	10.5	5.2	61.6	1.1	20.4	1.2	0.36	0.29	0.58	2410	2460	2880	1.0	10,820	77
				3			35.8	52.5	11.7	4.5	68.9	1.2	12.3	1.4	0.41	0.32	0.65					12,100	
				4			40.6	59.4		5.1	78.0	1.4	13.9	1.6	0.46	0.36	0.73					13,710	
Lawrence	Elizabeth	906	2	2	43	8.4	36.2	43.9	11.5	5.4	62.7	1.3	17.2	1.9	0.41	0.81	0.67	2190	2360	2630	1.0	10,990	77
				3			39.6	47.8	12.6	4.9	68.5	1.4	10.6	2.1	0.45	0.89	0.73					12,000	
				4			45.2	54.8		5.6	78.3	1.6	12.1	2.4	0.51	1.01	0.84					13,720	

	Washington	902	2	2	31	9.0	36.2	46.6	8.2	5.5	65.3	1.3	18.0	1.8	0.24	0.88	0.64	2120	2170	2490	1.0	11,540	77
				3			39.8	51.2	9.0	4.9	71.7	1.4	11.0	1.9	0.27	0.96	0.70					12,690	
				4			43.7	56.3		5.4	78.8	1.6	12.0	2.1	0.30	1.06	0.77					13,940	
Monroe	Green	999	3	2	42	1.4	42.0	45.2	11.4	5.3	71.4	1.3	6.0	4.7	0.06	3.53	1.08	1900	1920	2020	7.0	13,090	78
				3			42.6	45.9	11.5	5.2	72.4	1.4	4.8	4.7	0.06	3.58	1.10					13,280	
				4			48.1	51.9		5.9	81.8	1.5	5.4	5.4	0.07	4.05	1.24					15,000	
	Seneca	934	3	2	31	1.9	42.8	44.5	10.8	5.4	70.2	1.3	7.1	5.3	0.26	3.58	1.44	1955	2055	2155	5.5	12,980	78
				3			43.7	45.3	11.0	5.3	71.6	1.3	5.5	5.4	0.26	3.65	1.47					13,240	
				4			49.1	50.9		5.9	80.4	1.5	6.2	6.0	0.30	4.10	1.65					14,880	
		934-1	3	2	12	1.8	26.4	27.5	44.3	3.5	42.4	0.7	4.9	4.1	0.03	3.33	0.74	2200	2320	2600	1.0	7,660	78
				3			26.9	28.0	45.1	3.4	43.2	0.7	3.4	4.2	0.03	3.39	0.75					7,800	
				4			48.9	51.1		6.1	78.7	1.3	6.2	7.6	0.06	6.17	1.36					14,210	
	Summit	933	3	2	34	1.7	31.8	35.0	31.5	4.3	52.6	1.0	6.2	4.5	0.12	3.00	1.38	2415	2505	2605	4.5	9,660	78
				3			32.4	35.6	32.0	4.1	53.5	1.0	4.8	4.6	0.12	3.05	1.41					9,830	
				4			47.6	52.4		6.1	78.6	1.5	7.0	6.7	0.18	4.48	2.07					14,450	
	Sunsbury	995	3	2	32	1.6	43.5	43.5	11.4	5.2	69.1	1.2	6.4	6.7	0.10	5.09	1.52	2320	2370	2470	7.5	12,940	78
				3			44.1	44.3	11.6	5.1	70.2	1.2	5.1	6.8	0.10	5.17	1.55					13,150	
				4			49.9	50.1		5.8	79.4	1.4	5.7	7.7	0.11	5.84	1.75					14,870	
Muskingum	Newton	1086	2	2	40	7.2	38.4	47.6	6.8	5.7	67.9	1.4	15.4	2.7	0.02	1.22	1.45	1840	1950	2070	5.0	12,260	78
				3			41.3	51.3	7.4	5.3	73.2	1.5	9.7	2.9	0.02	1.32	1.56					13,200	
				4			44.6	55.4		5.7	79.0	1.6	10.5	3.1	0.02	1.42	1.69					14,250	
Noble	Beaver	960	3	2	25	2.1	40.8	48.5	8.6	5.4	71.5	1.3	8.2	5.0	0.15	2.87	1.95	2020	2070	2350	5.0	13,100	78
				3			41.6	49.6	8.8	5.2	73.1	1.3	6.5	5.1	0.15	2.93	1.99					13,380	
				4			45.6	54.4		5.8	80.1	1.4	7.1	5.6	0.17	3.21	2.19					14,670	
		960-1	3	2	12	2.4	26.6	28.4	42.6	3.5	41.7	0.6	6.6	4.9	0.06	3.93	0.93	2250	2380	2910	1.0	7,660	78
				3			27.2	29.1	43.7	3.3	42.7	0.7	4.5	5.0	0.06	4.02	0.95					7,850	
				4			48.4	51.6		5.9	75.9	1.2	8.1	9.0	0.11	7.15	1.69					13,940	
	Center	930	3	2	33	1.8	40.8	44.2	13.2	4.9	66.0	1.1	6.9	8.0	0.41	5.76	1.80	2140	2240	2420	4.5	12,180	78
				3			41.6	44.9	13.5	4.8	67.2	1.1	5.4	8.1	0.42	5.87	1.83					12,400	
				4			48.0	52.0		5.6	77.6	1.3	6.2	9.4	0.48	6.78	2.11					14,330	
		956	3	2	34	3.4	39.1	44.7	12.8	5.2	67.3	1.1	8.7	4.7	0.34	1.98	2.40	2010	2060	2120	5.0	12,180	78
				3			40.4	46.3	13.3	5.0	69.7	1.1	5.9	4.9	0.36	2.05	2.48					12,610	
				4			46.7	53.3		5.8	80.4	1.3	6.8	5.6	0.41	2.37	2.86					14,550	
	Elk	919	3	2	44	1.5	39.1	42.7	16.7	5.0	65.2	1.2	6.6	5.3	0.26	3.51	1.51	2000	2050	2330	4.5	12,030	78
				3			39.7	43.3	17.0	4.9	66.2	1.2	5.4	5.4	0.26	3.57	1.53					12,210	
				4			47.8	52.2		6.0	79.7	1.4	6.4	6.5	0.31	4.30	1.85					14,710	
	Stock	922	3	2	27	1.4	37.5	38.0	23.1	4.5	56.5	0.9	4.7	10.4	0.54	8.08	1.75	2080	2110	2140	5.0	10,690	78
				3			38.0	38.6	23.4	4.4	57.3	0.9	3.5	10.5	0.54	8.19	1.78					10,840	
				4			49.7	50.3		5.7	74.8	1.1	4.6	13.7	0.71	10.70	2.32					14,150	
		950	3	2	39	1.8	34.4	41.6	22.2	4.7	60.4	1.0	7.7	3.9	0.13	2.64	1.17	2040	2090	2410	6.0	11,070	78
				3			35.0	42.4	22.6	4.6	61.5	1.1	6.3	4.0	0.13	2.68	1.19					11,270	
				4			45.3	54.7		5.9	79.4	1.4	8.1	5.2	0.17	3.47	1.53					14,560	
	Wayne	949	3	2	30	3.4	41.7	44.4	10.5	5.4	69.9	1.2	9.9	3.1	0.02	1.46	1.60	2055	2155	2255	4.5	12,690	78
				3			43.2	45.9	10.9	5.2	72.4	1.3	7.1	3.2	0.02	1.51	1.65					13,140	
				4			48.5	51.5		5.8	81.2	1.4	8.0	3.6	0.02	1.69	1.85					14,750	

County	Township	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
LOWER KITTANNING (NO. 5) COAL (continued)																							
Noble (continued)	Wayne (continued)	972	3	2	36	2.9	44.0	45.3	7.8	5.7	72.4	1.3	9.6	3.3	0.05	2.00	1.23	2070	2160	2260	6.0	13,250	78
				3			45.3	46.7	8.0	5.5	74.6	1.4	7.2	3.4	0.05	2.06	1.27					13,650	
				4			49.3	50.7		6.0	81.1	1.5	7.8	3.7	0.06	2.24	1.38					14,840	
		972-1	3	2	7	3.0	25.4	24.6	47.0	3.5	38.9	0.7	7.6	2.2	0.12	1.75	0.35	2510	2620	2710		6,980	78
				3			26.2	25.4	48.4	3.3	40.1	0.7	5.1	2.3	0.12	1.80	0.37					7,190	
				4			50.7	49.3		6.4	77.8	1.3	10.0	4.4	0.24	3.50	0.71					13,940	
Perry	Clayton	1084	2	2	35	6.7	39.1	43.8	10.4	5.7	64.1	1.3	12.8	5.7	0.04	4.38	1.31	1950	2040	2130	4.5	11,720	78
				3			41.9	47.0	11.1	5.3	68.7	1.4	7.3	6.1	0.04	4.69	1.40					12,550	
				4			47.1	52.9		6.0	77.3	1.6	8.3	6.9	0.05	5.28	1.58					14,120	
	Pike	1073	2	2	24	4.4	39.0	50.3	6.3	5.6	77.1	1.5	13.0	2.5	0.01	2.04	0.41	2060	2150	2260	2.0	12,760	78
				3			40.8	52.6	6.6	5.3	74.3	1.6	9.5	2.6	0.01	2.13	0.42					13,340	
				4			43.7	56.3		5.7	79.6	1.7	10.2	2.7	0.01	2.28	0.45					14,290	
		1080	2	2	26	9.6	37.3	46.0	7.1	5.8	65.6	1.3	17.2	2.9	0.01	1.76	1.15	1920	2020	2090	3.0	11,840	78
				3			41.2	50.9	7.9	5.3	72.6	1.5	9.5	3.2	0.01	1.95	1.27					13,090	
				4			44.8	55.2		5.7	78.8	1.6	10.4	3.5	0.01	2.11	1.38					14,220	
Scioto	Vernon	912	2	2	25	7.0	40.0	42.4	10.6	5.4	62.5	1.1	16.5	3.9	0.66	2.32	0.90	2080	2160	2460	1.5	11,270	77
				3			43.0	45.6	11.4	4.9	67.2	1.1	11.1	4.2	0.71	2.49	0.97					12,110	
				4			48.6	51.4		5.6	75.9	1.3	12.5	4.7	0.80	2.82	1.09					13,680	
Vinton	Brown	883	2	2	31	6.5	37.5	44.1	11.9	5.2	62.3	1.2	14.2	5.1	0.31	3.09	1.74	2005	2105	2205	3.0	11,430	78
				3			40.1	47.2	12.7	4.8	66.6	1.3	9.0	5.5	0.33	3.31	1.86					12,230	
				4			46.0	54.0		5.5	76.3	1.5	10.3	6.3	0.38	3.79	2.13					14,010	
		1023	2	2	23	5.1	39.4	41.7	13.8	5.4	62.7	1.2	11.4	5.5	0.01	3.92	1.57	2100	2210	2320	4.0	11,520	78
				3			41.5	43.9	14.6	5.1	66.0	1.2	7.3	5.8	0.01	4.13	1.66					12,130	
				4			48.6	51.4		6.0	77.3	1.5	8.5	6.8	0.01	4.83	1.94					14,200	
	Clinton	855	2	2	40	6.1	40.2	44.3	9.4	5.3	65.0	1.2	15.3	3.8	0.38	2.36	1.04	2130	2230	2580	1.5	11,770	77
				3			42.8	47.2	10.0	4.9	69.3	1.3	10.5	4.0	0.40	2.52	1.11					12,540	
				4			47.5	52.5		5.5	76.9	1.5	11.6	4.5	0.45	2.80	1.23					13,930	
		861	2	2	36	5.7	38.1	44.5	11.7	5.3	63.0	1.2	14.5	4.4	0.32	3.28	0.79	2080	2130	2350	1.0	11,510	77
				3			40.4	47.2	12.4	5.0	66.7	1.3	10.0	4.6	0.33	3.48	0.84					12,200	
				4			46.1	53.9		5.7	76.2	1.4	11.4	5.3	0.38	3.97	0.96					13,930	
		861-1	2	2	27	7.9	36.8	46.8	8.5	5.4	65.3	1.3	16.1	3.4	0.29	2.48	0.63	2020	2070	2350	1.0	11,620	77
				3			40.0	50.8	9.2	4.9	70.9	1.4	9.9	3.7	0.31	2.70	0.68					12,620	
				4			44.1	55.9		5.4	78.1	1.5	10.9	4.1	0.35	2.97	0.75					13,910	
		861-2	2	2	10	3.8	34.1	33.4	28.7	4.0	47.7	0.9	8.8	10.0	0.63	8.01	1.37	2110	2160	2280	1.0	8,810	77
				3			35.4	34.8	29.8	3.7	49.6	0.9	5.6	10.4	0.65	8.33	1.42					9,160	
				4			50.4	49.6		5.3	70.6	1.3	8.0	14.8	0.93	11.87	2.03					13,050	
	Elk	1015	2	2	41	7.9	37.8	41.2	13.1	5.5	59.9	1.1	16.0	4.5	0.22	2.79	1.45	2100	2210	2300	3.5	11,090	78
				3			41.0	44.8	14.2	5.0	65.0	1.2	9.7	4.8	0.24	3.03	1.57					12,040	
				4			47.8	52.2		5.8	75.7	1.4	11.3	5.6	0.28	3.53	1.83					14,030	

		1018	2	2	24	6.4	44.4	40.1	9.1	5.9	65.4	1.2	13.8	4.7	0.18	3.12	1.37	2150	2250	2340	4.0	12,060	78
				3			47.4	42.9	9.7	5.5	69.9	1.3	8.7	5.0	0.19	3.34	1.46					12,880	
				4			52.5	47.5		6.1	77.3	1.5	9.6	5.5	0.22	3.69	1.62					14,260	
		1020	2	2	19	4.2	39.6	33.3	22.9	4.9	51.8	1.0	10.0	9.4	0.04	7.98	1.35	2010	2120	2210	3.5	9,670	78
				3			41.3	34.8	23.9	4.6	54.1	1.1	6.6	9.8	0.04	8.32	1.41					10,090	
				4			54.3	45.7		6.0	71.0	1.4	8.7	12.8	0.05	10.93	1.85					13,260	
		1026	2	2	18	9.1	33.2	44.7	13.0	5.4	61.7	1.2	16.3	2.4	0.01	1.45	0.94	2560	2650	2750	1.0	10,830	78
				3			36.6	49.1	14.3	4.8	67.9	1.3	9.1	2.6	0.01	1.60	1.04					11,910	
				4			42.6	57.4		5.6	79.2	1.5	10.6	3.1	0.01	1.86	1.21					13,890	
Washington	Adams	916	3	2	30	2.8	35.9	49.3	12.0	5.2	70.3	1.3	8.9	2.4	0.01	2.03	0.37	2055	2155	2255	5.0	12,620	78
				3			36.9	50.8	12.3	5.0	72.3	1.3	6.6	2.5	0.01	2.09	0.38					12,980	
				4			42.1	57.9		5.8	82.4	1.5	7.5	2.8	0.01	2.38	0.43					14,810	
MIDDLE KITTANNING (NO. 6) COAL																							
Athens	York	873	2	2	96	7.6	36.0	46.5	9.9	5.5	66.2	1.4	15.6	1.4	0.03	0.71	0.62	2405	2515	2605	1.0	11,690	77
				3			38.9	50.4	10.7	5.1	71.6	1.5	9.6	1.5	0.03	0.77	0.67					12,650	
				4			43.6	56.4		5.7	80.2	1.7	10.7	1.6	0.03	0.86	0.75					14,160	
		873-1	2	2	44	9.9	35.6	48.6	5.9	5.5	67.4	1.4	18.5	1.1	0.05	0.56	0.51	2415	2505	2605	1.0	11,990	77
				3			39.5	53.9	6.6	4.9	74.9	1.6	10.8	1.2	0.05	0.63	0.56					13,310	
				4			42.3	57.7		5.3	80.1	1.7	11.5	1.3	0.06	0.67	0.60					14,240	
		873-2	2	2	34	7.7	34.7	47.0	10.6	5.2	65.2	1.4	15.9	1.6	0.02	1.14	0.49	2455	2555	2650	1.0	11,560	77
				3			37.6	50.9	11.5	4.8	70.7	1.5	9.7	1.8	0.02	1.23	0.53					12,530	
				4			42.5	57.5		5.4	79.9	1.7	11.0	2.0	0.02	1.39	0.60					14,160	
		873-3	2	2	18	5.5	39.0	42.6	12.9	5.3	65.2	1.4	13.3	1.9	0.04	1.26	0.59	2255	2355	2455	1.0	11,680	77
				3			41.3	45.0	13.7	4.9	69.0	1.5	8.9	2.0	0.04	1.34	0.63					12,350	
				4			47.8	52.2		5.7	79.9	1.7	10.4	2.3	0.05	1.55	0.73					14,300	
Belmont	Somerset	976	3	2	32	2.5	36.1	39.4	22.0	4.8	61.0	1.1	8.4	2.6	0.01	1.26	1.35	2470	2580	2660	6.5	11,140	78
				3			37.1	40.3	22.6	4.7	62.5	1.1	6.3	2.7	0.01	1.30	1.39					11,430	
				4			47.9	52.1		6.0	80.8	1.5	8.2	3.5	0.01	1.67	1.79					14,760	
		978	3	2	36	3.2	36.7	40.7	19.4	4.9	62.3	1.0	8.2	4.2	0.01	1.75	2.40	2040	2150	2230	4.5	11,370	78
				3			37.9	42.1	20.0	4.7	64.4	1.1	5.5	4.3	0.01	1.81	2.47					11,740	
				4			47.3	52.7		5.9	80.5	1.3	6.9	5.4	0.01	2.26	3.09					14,680	
	Wayne	969	3	2	37	2.3	37.7	41.0	19.0	4.8	62.4	1.1	6.5	6.1	0.03	3.41	2.64	1975	2065	2140	4.5	11,540	78
				3			38.6	41.9	19.5	4.6	63.9	1.1	4.5	6.2	0.03	3.49	2.71					11,810	
				4			47.9	52.1		5.8	79.4	1.4	5.6	7.7	0.04	4.33	3.36					14,670	
Coshocton	Bethlehem	1124	2	2	34	13.0	35.4	47.4	4.2	5.7	59.9	1.5	26.9	2.0	0.04	0.52	1.40	2150	2240	2350		10,880	78
				3			40.7	54.5	4.8	4.9	68.9	1.7	17.6	2.2	0.04	0.59	1.61					12,520	
				4			42.8	57.2		5.1	72.4	1.8	18.4	2.4	0.04	0.62	1.69					13,140	
	Franklin	1127	2	2	35	5.3	40.2	48.8	5.7	5.7	69.2	1.5	14.9	3.0	0.02	1.28	1.75	1915	2005	2100	5.0	12,820	78
				3			42.4	51.6	6.0	5.4	73.1	1.6	10.7	3.2	0.02	1.35	1.85					13,530	
				4			45.1	54.9		5.8	77.7	1.7	11.4	3.4	0.02	1.43	1.97					14,400	
	Keene	1113	2	2	30	16.3	33.7	41.7	8.3	5.6	56.4	1.3	26.5	2.0	0.10	0.68	1.17	2005	2120	2215		9,610	78
				3			40.3	49.7	10.0	4.5	67.3	1.6	14.3	2.3	0.12	0.81	1.40					11,480	
				4			44.7	55.3		5.0	74.8	1.7	15.9	2.6	0.13	0.90	1.56					12,750	
	Lafayette	1117	2	2	40	7.3	38.7	48.6	5.4	5.8	68.2	1.5	16.3	2.7	0.01	0.95	1.73	2000	2090	2200	1.0	12,080	78
				3			41.8	52.3	5.9	5.3	73.6	1.7	10.6	2.9	0.01	1.03	1.87					13,040	
				4			44.4	55.6		5.7	78.2	1.8	11.2	3.1	0.01	1.09	1.98					13,850	

County	Township	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
MIDDLE KITTANNING (NO. 6) COAL (continued)																							
Coshocton (continued)	Linton	1126	2	2	39	4.8	43.5	47.2	4.5	5.5	71.8	1.5	12.8	3.9	0.02	1.62	2.25	2050	2160	2250	4.0	13,120	78
				3			45.6	49.6	4.8	5.2	75.4	1.6	9.0	4.1	0.02	1.70	2.36					13,780	
				4			47.9	52.1		5.5	79.1	1.7	9.4	4.3	0.02	1.78	2.48					14,470	
	Mill Creek	1119	2	2	23	6.7	39.2	51.1	3.0	5.3	72.5	1.7	15.7	1.8	0.01	0.72	1.08	2065	2155	2255	2.0	12,900	78
				3			42.1	54.6	3.3	4.9	77.7	1.8	10.4	1.9	0.01	0.77	1.16					13,830	
				4			43.5	56.5		5.0	80.3	1.8	10.7	2.0	0.01	0.79	1.20					14,300	
	Oxford	1115	2	2	36	4.6	42.6	48.6	4.2	5.8	73.2	1.5	12.3	2.9	0.01	1.23	1.67	1940	2050	2140	5.0	13,250	78
				3			44.6	51.0	4.4	5.5	76.8	1.6	8.6	3.0	0.01	1.29	1.75					13,890	
				4			46.7	53.3		5.8	80.3	1.6	9.0	3.2	0.01	1.34	1.84					14,530	
		1118	2	2	35	6.1	40.3	50.1	3.5	5.8	71.3	1.6	15.5	2.3	0.01	0.99	1.31	2010	2120	2210	2.5	12,840	78
				3			42.9	53.4	3.7	5.5	75.9	1.7	10.7	2.5	0.01	1.05	1.39					13,670	
				4			44.5	55.5		5.7	78.8	1.8	11.1	2.6	0.01	1.09	1.45					14,200	
	Tuscarawas	1111	2	2	36	5.1	40.7	49.4	4.8	5.7	71.8	1.5	13.7	2.6	0.03	0.83	1.71	2000	2090	2200	5.0	12,950	78
				3			42.9	52.1	5.0	5.4	75.7	1.6	9.6	2.7	0.03	0.88	1.81					13,650	
				4			45.2	54.8		5.6	79.7	1.7	10.2	2.9	0.03	0.93	1.90					14,370	
Gallia	Huntington	898	2	2	75	6.8	35.3	46.2	11.7	5.2	64.0	1.1	15.8	2.2	0.21	1.18	0.84	2330	2430	2750	1.0	11,310	77
				3			37.9	49.6	12.5	4.8	68.6	1.2	10.5	2.4	0.23	1.27	0.90					12,130	
				4			43.3	56.7		5.4	78.5	1.4	12.0	2.7	0.26	1.45	1.03					13,870	
	Walnut	1032	2	2	24	5.7	39.1	45.4	9.8	5.4	67.9	1.3	13.6	1.8	0.04	1.08	0.72	2420	2510	2600	1.0	12,060	78
				3			41.5	48.1	10.4	5.1	72.1	1.4	9.1	2.0	0.04	1.15	0.76					12,800	
				4			46.3	53.7		5.7	80.4	1.6	10.1	2.2	0.05	1.28	0.85					14,280	
Guernsey	Millwood	965	3	2	34	3.1	35.3	37.8	23.8	4.6	55.7	1.0	7.4	7.5	0.46	4.63	2.41	1930	2010	2100	4.0	10,300	78
				3			36.4	39.0	24.6	4.4	57.4	1.0	4.8	7.7	0.48	4.77	2.49					10,630	
				4			48.3	51.7		5.8	76.2	1.3	6.4	10.3	0.63	6.33	3.30					14,090	
	Wheeling	1125	2	2	29	6.4	40.2	50.6	2.8	5.9	71.6	1.6	15.9	2.2	0.04	0.66	1.42	2060	2150	2250	1.5	12,880	78
				3			42.9	54.1	3.0	5.5	76.5	1.7	10.9	2.3	0.04	0.71	1.57					13,760	
				4			44.2	55.8		5.7	78.9	1.7	11.3	2.4	0.04	0.73	1.62					14,180	
Hocking	Starr	889	2	2	55	10.5	34.3	44.8	10.4	5.4	62.4	1.2	19.2	1.4	0.39	0.66	0.35	2715	2800	2800	1.0	10,990	77
				3			38.4	50.0	11.6	4.7	69.8	1.4	11.0	1.6	0.44	0.74	0.39					12,280	
				4			43.4	56.6		5.3	79.0	1.5	12.4	1.8	0.49	0.83	0.45					13,900	
		889-1	2	2	23	9.6	24.6	32.2	33.6	4.1	43.0	0.8	17.0	1.5	0.56	0.67	0.26	2800	2800	2800	0.5	7,440	77
				3			27.2	35.6	37.2	3.4	47.5	0.9	9.4	1.6	0.62	0.74	0.29					8,230	
				4			43.4	56.6		5.4	75.6	1.4	15.0	2.6	0.98	1.18	0.46					13,100	
		890	2	2	42	8.6	34.9	51.7	4.8	5.5	70.1	1.4	17.7	0.6	0.02	0.20	0.40	2680	2910	2910	1.0	12,300	77
				3			38.2	56.5	5.3	5.0	76.7	1.5	11.0	0.7	0.02	0.21	0.43					13,460	
				4			40.3	59.7		5.3	80.9	1.6	11.6	0.7	0.02	0.23	0.46					14,210	
Jackson	Madison	870	2	2	10	6.3	38.7	47.4	7.6	5.4	67.3	1.3	16.0	2.5	0.32	1.72	0.43	1940	1990	2200	1.5	12,030	77
				3			41.3	50.6	8.1	5.0	71.8	1.4	11.1	2.6	0.34	1.83	0.46					12,840	
				4			45.0	55.0		5.5	78.1	1.5	12.0	2.9	0.37	1.99	0.50					13,970	

	Milton	864	2	2 3 4	18	9.3	36.3 40.0 42.5	49.0 54.0 57.5	5.4 6.0	5.7 5.2 5.5	68.8 75.8 80.6	1.3 1.4 1.5	17.4 10.1 10.7	1.4 1.6 1.7	0.13 0.14 0.15	0.50 0.55 0.59	0.78 0.86 0.92	2150	2300	2520	1.0	11,980 13,200 14,040	77
Lawrence	Elizabeth	907	2	2 3 4	15	5.5	38.8 41.1 46.3	45.1 47.7 53.7	10.6 11.2	5.0 4.7 5.3	62.7 66.3 74.7	1.3 1.4 1.6	15.5 11.2 12.6	4.9 5.2 5.9	0.60 0.64 0.72	3.32 3.51 3.95	1.01 1.07 1.20	2080	2130	2310	1.5	11,440 12,110 13,630	77
Monroe	Green	1000	3	2 3 4	37	1.6	37.2 37.8 46.8	42.3 43.0 53.2	18.9 19.2	4.9 4.8 6.0	64.7 65.7 81.4	1.1 1.1 1.4	6.3 5.0 6.1	4.0 4.1 5.1	0.09 0.09 0.11	2.70 2.74 3.40	1.24 1.26 1.56	2150	2200	2340	5.5	11,730 11,930 14,770	78
	Seneca	937	3	2 3 4	44	2.4	40.6 41.6 49.7	41.2 42.2 50.3	15.8 16.2	5.1 4.9 5.9	66.4 68.0 81.2	1.2 1.2 1.5	8.8 6.9 8.2	2.7 2.8 3.3	0.03 0.03 0.04	1.55 1.59 1.90	1.13 1.16 1.38	2560	2650	2755	7.0	12,120 12,420 14,820	78
		940	3	2 3 4	36	2.8	42.6 43.9 48.5	45.4 46.6 51.5	9.2 9.5	5.3 5.1 5.7	70.0 72.0 79.6	1.3 1.3 1.5	8.9 6.5 7.2	5.4 5.5 6.1	0.15 0.15 0.17	3.82 3.93 4.34	1.39 1.43 1.58	2155	2255	2355	5.5	13,010 13,390 14,790	78
		944	3	2 3 4	42	2.1	37.4 38.2 48.2	40.2 41.0 51.8	20.3 20.8	4.8 4.6 5.8	61.4 62.7 79.2	1.1 1.1 1.4	8.0 6.2 7.9	4.4 4.5 5.7	0.21 0.21 0.27	2.78 2.84 3.58	1.45 1.48 1.87	2115	2205	2305	4.5	11,420 11,660 14,720	78
	Summit	932	3	2 3 4	34	1.9	39.4 40.2 47.8	43.0 43.8 52.2	15.7 16.0	5.2 5.1 6.1	67.3 68.5 81.6	1.2 1.2 1.5	8.3 6.7 8.0	2.3 2.3 2.8	0.02 0.02 0.02	1.00 1.02 1.22	1.27 1.30 1.54	2405	2510	2610	6.5	12,310 12,540 14,940	78
	Sunsbury	994	3	2 3 4	31	2.5	40.6 41.6 46.8	46.1 47.3 53.2	10.8 11.1	5.4 5.2 5.9	70.6 72.5 81.5	1.3 1.3 1.5	8.4 6.3 7.1	3.5 3.6 4.1	0.04 0.04 0.05	1.93 1.98 2.23	1.56 1.60 1.80	2300	2570	2670	6.5	12,950 13,290 14,940	78
Muskingum	Clay	1089	2	2 3 4	39	6.4	40.5 43.3 46.3	47.2 50.3 53.7	5.9 6.4	5.8 5.4 5.8	67.7 72.4 77.3	1.3 1.4 1.5	15.7 10.7 11.4	3.6 3.8 4.1	0.08 0.08 0.09	1.78 1.91 2.04	1.72 1.83 1.96	1920	2010	2100	4.0	12,450 13,300 14,210	78
	Madison	1097	2	2 3 4	29	6.7	39.6 42.5 44.8	48.9 52.4 55.2	4.8 5.1	5.9 5.5 5.8	67.3 72.1 76.0	1.4 1.5 1.6	17.3 12.1 12.7	3.4 3.7 3.9	0.09 0.09 0.10	1.58 1.69 1.78	1.75 1.88 1.98	2100	2210	2300	3.0	12,550 13,450 14,180	78
	Newton	1077	2	2 3 4	39	5.9	42.0 44.6 47.8	45.8 48.7 52.2	6.3 6.7	6.0 5.7 6.1	69.3 73.7 79.0	5.6 6.0 6.4	9.4 4.4 4.7	3.3 3.5 3.7	0.01 0.01 0.01	1.63 1.73 1.86	1.64 1.74 1.87	1950	2050	2160	4.0	12,640 13,430 14,400	78
	Salem	1076	2	2 3 4	34	5.2	42.9 45.2 48.8	45.0 47.5 51.2	6.9 7.3	5.9 5.6 6.0	69.4 73.2 79.0	1.3 1.4 1.5	13.0 8.9 9.5	3.5 3.7 4.0	0.01 0.01 0.01	1.64 1.73 1.86	1.90 2.00 2.16	1930	2050	2170	4.0	12,710 13,400 14,450	78
	Washington	1095	2	2 3 4	27	6.5	38.9 41.6 45.9	45.9 49.0 54.1	8.7 9.4	5.7 5.3 5.9	66.1 70.7 78.0	1.2 1.3 1.4	13.7 8.4 9.3	4.6 4.9 5.4	0.26 0.28 0.31	2.23 2.38 2.63	2.07 2.22 2.45	2100	2210	2300	4.0	12,000 12,840 14,160	78
		1096	2	2 3 4	43	6.2	41.2 43.9 47.5	45.4 48.5 52.5	7.2 7.6	5.9 5.6 6.0	67.9 72.3 78.3	1.3 1.3 1.5	13.3 8.3 9.0	4.5 4.8 5.2	0.09 0.09 0.10	2.22 2.37 2.56	2.21 2.36 2.55	1900	2020	2110	3.5	12,360 13,180 14,260	78
Noble	Beaver	959	3	2 3 4	29	2.0	43.4 44.3 46.9	49.1 50.0 53.1	5.5 5.7	5.5 5.4 5.7	76.1 77.7 82.3	1.3 1.3 1.4	8.5 6.9 7.3	3.1 3.1 3.3	0.19 0.20 0.21	1.12 1.15 1.21	1.75 1.78 1.89	2120	2200	2350	6.5	13,710 13,990 14,820	78

County	Township	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
MIDDLE KITTANNING (NO. 6) COAL (continued)																							
Noble (continued)	Beaver (continued)	959-1	3	2	10	2.1	27.8	29.3	40.8	3.8	45.1	0.8	8.2	1.3	0.03	0.48	0.78	2770	2910	2910	1.0	8,120	78
				3			28.4	29.9	41.7	3.6	46.1	0.8	6.5	1.3	0.03	0.49	0.79					8,290	
				4			48.7	51.3		6.2	79.0	1.3	11.1	2.3	0.05	0.84	1.36					14,220	
	Buffalo	954	3	2	33	3.2	40.8	47.2	8.8	5.3	69.2	1.2	10.6	4.8	0.34	2.56	1.87	2040	2090	2490	4.5	12,620	78
				3			42.1	48.8	9.1	5.1	71.5	1.3	8.0	4.9	0.35	2.65	1.93					13,040	
				4			46.3	53.7		5.6	78.6	1.4	8.9	5.4	0.39	2.91	2.12					14,340	
	Center	935	3	2	36	3.1	38.9	48.7	9.3	5.3	70.0	1.3	9.5	4.6	0.08	3.05	1.43	2205	2305	2405	5.0	12,910	78
				3			40.2	50.2	9.6	5.1	72.2	1.3	7.0	4.7	0.08	3.14	1.48					13,320	
				4			44.4	55.6		5.7	79.9	1.5	7.7	5.2	0.09	3.48	1.63					14,740	
		941	3	2	47	2.5	42.3	46.0	9.2	5.4	71.5	1.3	8.7	3.8	0.02	2.10	1.63	2055	2155	2255	5.0	12,990	78
				3			43.4	47.1	9.5	5.3	73.4	1.3	6.6	3.8	0.02	2.15	1.68					13,330	
				4			47.9	52.1		5.8	81.1	1.5	7.3	4.3	0.02	2.38	1.85					14,720	
		955	3	2	37	2.5	38.6	47.0	11.9	5.1	68.8	1.1	9.3	3.7	0.09	1.81	1.83	2040	2140	2350	5.0	12,500	78
				3			39.6	48.2	12.2	4.9	70.6	1.1	7.3	3.8	0.09	1.85	1.88					12,820	
				4			45.1	54.9		5.6	80.5	1.3	8.3	4.4	0.10	2.11	2.14					14,610	
	Elk	928	3	2	29	1.6	39.9	47.7	10.8	5.1	70.5	0.9	7.5	5.2	0.05	3.93	1.18	2090	2140	2510	6.0	12,930	78
				3			40.6	48.4	11.0	5.0	71.7	0.9	6.2	5.2	0.05	3.99	1.20					13,140	
				4			45.6	54.4		5.6	80.5	1.0	6.9	5.9	0.06	4.48	1.34					14,750	
	Marion	945	3	2	40	3.0	38.4	43.0	15.6	5.6	66.2	1.2	9.0	2.4	0.01	1.43	0.99	2415	2515	2610	5.0	11,980	78
				3			39.6	44.3	16.1	5.4	68.2	1.2	6.5	2.5	0.01	1.47	1.02					12,350	
				4			47.2	52.8		6.4	81.3	1.5	7.8	3.0	0.01	1.75	1.22					14,720	
	Olive	920	3	2	38	2.3	40.0	46.0	11.7	5.2	68.8	1.1	7.3	6.0	0.15	4.66	1.15	2130	2230	2410	5.0	12,510	78
				3			40.9	47.1	12.0	5.0	70.4	1.1	5.4	6.1	0.16	4.77	1.17					12,800	
				4			46.5	53.5		5.7	79.9	1.3	6.2	6.9	0.18	5.42	1.33					14,540	
	Seneca	962	3	2	45	2.5	36.6	43.9	17.0	4.9	65.2	1.0	8.8	3.1	0.07	1.52	1.47	2250	2310	2710	5.0	11,770	78
				3			37.5	45.1	17.4	4.8	66.9	1.0	6.7	3.1	0.08	1.56	1.50					12,070	
				4			45.4	54.6		5.8	81.0	1.3	8.1	3.8	0.09	1.89	1.82					14,620	
	Sharon	917	3	2	28	2.5	42.2	46.0	9.3	5.4	69.9	1.2	9.8	4.3	0.02	2.84	1.49	2155	2250	2360	3.5	13,080	78
				3			43.3	47.1	9.6	5.3	71.7	1.3	7.8	4.5	0.02	2.91	1.53					13,410	
				4			47.9	52.1		5.8	79.3	1.4	8.6	4.9	0.02	3.22	1.69					14,830	
	Stock	924	3	2	44	1.7	41.9	47.1	9.3	5.3	72.4	1.2	8.5	3.2	0.09	1.68	1.46	2150	2210	2510	5.0	13,170	78
				3			42.7	47.8	9.5	5.2	73.7	1.3	7.1	3.3	0.10	1.71	1.49					13,400	
				4			47.1	52.9		5.7	81.4	1.4	7.8	3.6	0.11	1.88	1.64					14,800	
		927	3	2	33	1.5	40.2	46.0	12.3	5.2	69.3	1.3	6.9	5.0	0.05	2.90	2.03	2005	2105	2205	5.0	12,750	78
				3			40.8	46.7	12.5	5.1	70.3	1.3	5.7	5.1	0.05	2.95	2.07					12,940	
				4			46.7	53.3		5.8	80.4	1.5	6.5	5.8	0.06	3.37	2.36					14,800	
	Wayne	952	3	2	40	2.7	43.0	48.6	5.7	5.6	74.7	1.3	10.3	2.3	0.08	0.71	1.54	2140	2190	2350	4.5	13,550	78
				3			44.1	50.0	5.9	5.5	76.7	1.4	8.2	2.4	0.08	0.73	1.58					13,920	
				4			46.9	53.1		5.8	81.5	1.5	8.7	2.5	0.08	0.77	1.68					14,790	

		971	3	2 3 4	31	3.0	41.4 42.7 47.6	45.7 47.1 52.4	9.9 10.2	5.5 5.3 5.9	70.3 72.5 80.7	1.4 1.5 1.6	9.2 6.8 7.5	3.7 3.8 4.2	0.01 0.01 0.01	2.90 3.00 3.34	0.75 0.77 0.86	2055	2155	2250	4.0	12,870 13,270 14,770	78
		971-1	3	2 3 4	10	2.1	18.6 19.0 50.1	18.6 19.0 49.9	60.7 62.0	2.4 2.3 5.9	25.9 26.4 69.6	0.6 0.6 1.6	6.0 4.3 11.2	4.3 4.4 11.6	0.02 0.02 0.05	3.21 3.28 8.63	1.10 1.12 2.96	2370	2450	2550		4,690 4,790 12,600	78
Perry	Clayton	1075	2	2 3 4	40	6.7	39.7 42.6 47.9	43.2 46.2 52.1	10.4 11.2	5.7 5.3 5.9	65.9 70.6 79.5	1.2 1.3 1.5	15.0 9.7 11.0	1.7 1.9 2.1	0.19 0.21 0.23	0.35 0.38 0.43	1.20 1.28 1.44	2800	2800	2800	4.5	11,890 12,740 14,340	78
		1085	2	2 3 4	42	10.6	39.5 44.2 47.9	43.0 48.0 52.1	6.9 7.8	6.0 5.4 5.9	63.6 71.1 77.1	1.1 1.2 1.3	19.4 11.1 12.1	3.0 3.4 3.7	0.01 0.01 0.01	1.14 1.27 1.38	1.88 2.11 2.28	1930	2050	2140	1.0	11,470 12,840 13,910	78
		1085-1	2	2 3 4	14	10.7	29.2 32.7 44.0	37.2 41.7 56.0	22.9 25.6	4.7 4.0 5.4	49.5 55.4 74.5	0.8 1.0 1.3	20.6 12.5 16.7	1.4 1.5 2.1	0.01 0.01 0.01	1.15 1.28 1.73	0.22 0.25 0.34	2420	2530	2610		8,570 9,600 12,900	78
	Jackson	1072	2	2 3 4	30	7.6	41.3 44.7 47.2	46.3 50.1 52.8	4.8 5.2	6.0 5.6 5.9	68.9 74.5 78.5	1.3 1.4 1.5	16.6 10.6 11.2	2.5 2.7 2.8	0.01 0.01 0.01	1.37 1.49 1.57	1.08 1.17 1.23	2020	2110	2200	4.5	12,350 13,360 14,090	78
		1072-1	2	2 3 4	12	7.8	30.1 32.7 44.2	38.1 41.3 55.8	24.0 26.0	4.8 4.3 5.8	53.9 58.5 79.1	1.0 1.0 1.4	14.7 8.5 11.5	1.5 1.6 2.2	0.02 0.02 0.02	0.56 0.61 0.82	0.92 1.00 1.35	2850	2910	2910	1.0	9,540 10,340 13,980	78
	Madison	1098	2	2 3 4	44	9.7	37.7 41.7 45.5	45.0 49.9 54.5	7.6 8.4	5.7 5.2 5.6	64.0 70.8 77.4	1.2 1.4 1.5	19.4 12.0 13.1	1.9 2.1 2.3	0.01 0.01 0.01	0.37 0.41 0.45	1.55 1.72 1.88	2320	2410	2500	1.0	11,470 12,700 13,870	78
	Monroe	1087	2	2 3 4	49	6.4	44.2 47.2 51.7	41.3 44.2 48.3	8.1 8.6	5.9 5.6 6.1	66.9 71.4 78.2	1.1 1.2 1.3	13.1 7.9 8.7	4.9 5.2 5.7	0.03 0.03 0.03	2.52 2.70 2.95	2.31 2.47 2.70	1860	1970	2065	3.5	12,280 13,120 14,350	78
	Pike	1074	2	2 3 4	44	7.3	40.2 43.4 48.0	43.6 47.0 52.0	8.9 9.6	5.9 5.4 6.0	65.3 70.5 78.0	1.2 1.3 1.5	15.2 9.3 10.3	3.5 3.8 4.2	0.01 0.01 0.01	1.93 2.08 2.30	1.61 1.74 1.92	2160	2250	2355	5.5	11,860 12,790 14,150	78
		1081	2	2 3 4	42	7.3	40.0 43.2 46.2	46.7 50.3 53.8	6.0 6.5	5.6 5.1 5.5	69.0 74.4 79.5	1.3 1.4 1.5	15.5 9.8 10.5	2.5 2.7 2.9	0.01 0.01 0.01	1.94 2.10 2.24	0.59 0.64 0.69	2010	2120	2210	4.0	12,420 13,390 14,330	78
	Salt Lick	1082	2	2 3 4	47	7.6	37.6 40.7 45.1	45.9 49.7 54.9	8.9 9.6	5.6 5.2 5.7	66.3 71.9 79.4	1.2 1.3 1.5	15.4 9.4 10.4	2.5 2.7 2.9	0.01 0.01 0.01	1.99 2.16 2.39	0.46 0.50 0.55	2150	2260	2350	4.5	11,880 12,850 14,220	78
Vinton	Brown	884	2	2 3 4	46	8.1	38.7 42.2 45.3	46.9 50.9 54.7	6.3 6.9	5.5 5.0 5.4	68.1 74.2 79.6	1.4 1.5 1.6	17.3 11.0 11.8	1.3 1.4 1.5	0.04 0.04 0.04	0.90 0.98 1.05	0.34 0.36 0.39	2405	2505	2605	1.5	12,230 13,310 14,290	77
	Clinton	895	2	2 3 4	25	8.4	35.6 38.9 42.1	49.1 53.6 57.9	6.9 7.5	5.4 4.9 5.3	67.1 73.3 79.3	1.4 1.5 1.6	17.5 10.9 11.8	1.7 1.8 2.0	0.11 0.12 0.14	0.82 0.89 0.97	0.73 0.79 0.86	2140	2250	2600	1.0	11,870 12,960 14,010	77
		895-1	2	2 3 4	11	7.8	23.9 26.0 43.1	31.6 34.2 56.9	36.7 39.8	4.1 3.5 5.8	41.3 44.8 74.4	1.0 1.1 1.8	14.3 8.0 13.3	2.6 2.8 4.7	0.49 0.53 0.88	1.70 1.84 3.06	0.41 0.45 0.75	2250	2350	2760		7,160 7,770 12,900	77

County	Township	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
MIDDLE KITTANNING (NO. 6) COAL (continued)																							
Vinton (continued)	Elk	1016	2	2	34	8.0	40.9	44.0	7.1	5.9	67.5	1.3	15.4	2.8	0.02	1.90	0.84	1955	2055	2155	4.0	12,200	78
				3			44.4	47.9	7.7	5.5	73.4	1.4	9.0	3.0	0.02	2.06	0.92					13,260	
				4			48.1	51.9		5.9	79.5	1.5	9.8	3.3	0.02	2.24	0.99					14,370	
		1021	2	2	22	7.1	37.1	42.3	13.5	5.4	61.5	1.2	16.3	2.1	0.02	1.51	0.62	2510	2620	2710	1.0	11,000	78
				3			39.9	45.6	14.5	4.9	66.2	1.3	10.8	2.3	0.02	1.62	0.67					11,840	
				4			46.7	53.3		5.8	77.4	1.5	12.6	2.7	0.02	1.90	0.78					13,850	
		1027	2	2	21	6.3	42.6	46.4	4.7	5.9	70.9	0.5	15.9	2.0	0.01	0.97	1.01	2110	2200	2310	1.5	12,720	78
				3			45.5	49.4	5.1	5.6	75.7	0.6	11.0	2.1	0.01	1.03	1.08					13,580	
				4			47.9	52.1		5.9	79.7	0.6	11.6	2.2	0.01	1.09	1.14					14,300	
LOWER FREEPORT (NO. 6A) COAL																							
Athens	York	858	2	2	16	3.8	41.1	40.4	14.7	5.0	63.8	1.2	10.1	5.2	0.24	3.21	1.76	2140	2240	2540	5.0	11,320	77
				3			42.8	42.0	15.2	4.7	66.3	1.3	7.0	5.4	0.25	3.34	1.82					11,760	
				4			50.4	49.6		5.6	78.2	1.5	8.3	6.4	0.29	3.94	2.15					13,880	
		915	2	2	27	6.2	42.7	42.4	8.7	5.8	67.4	1.2	14.3	2.5	0.01	0.65	1.87	2410	2520	2610	4.5	12,210	78
				3			45.6	45.1	9.3	5.4	71.9	1.3	9.3	2.7	0.01	0.70	1.99					13,010	
				4			50.2	49.8		6.0	79.2	1.4	10.3	3.0	0.01	0.77	2.20					14,340	
Belmont	Somerset	975	3	2	43	2.5	41.9	44.6	11.0	5.5	70.5	1.4	8.0	3.5	0.01	2.91	0.60	2060	2150	2260	5.0	12,960	78
				3			43.0	45.7	11.3	5.4	72.3	1.4	6.0	3.6	0.01	2.99	0.62					13,290	
				4			48.5	51.5		6.1	81.6	1.6	6.7	4.1	0.01	3.37	0.70					14,990	
	Wayne	968	3	2	36	2.7	40.2	47.5	9.6	5.5	71.7	1.4	8.5	3.4	0.01	2.32	1.05	1950	2070	2170	6.0	13,110	78
				3			41.3	48.9	9.8	5.4	73.7	1.4	6.2	3.5	0.01	2.39	1.08					13,470	
				4			45.8	54.2		5.9	81.7	1.6	6.9	3.9	0.01	2.65	1.19					14,940	
Hocking	Starr	887	2	2	30	6.0	40.9	42.9	10.2	5.3	65.3	1.3	14.6	3.3	0.01	1.75	1.50	2005	2115	2205	4.0	11,910	77
				3			43.5	45.7	10.8	5.0	69.4	1.4	9.9	3.5	0.01	1.86	1.59					12,660	
				4			48.8	51.2		5.6	77.9	1.5	11.1	3.9	0.01	2.09	1.78					14,210	
		888	2	2	35	7.3	40.7	47.4	4.6	5.6	70.5	1.3	16.2	1.7	0.02	1.12	0.57	2110	2210	2310	5.0	12,620	77
				3			43.9	51.1	5.0	5.2	76.1	1.4	10.5	1.8	0.02	1.21	0.62					13,620	
				4			46.3	53.7		5.5	80.1	1.5	11.0	1.9	0.02	1.27	0.65					14,340	
	Ward	892	2	2	29	7.0	41.0	45.1	6.9	5.6	67.0	1.0	17.1	2.4	0.18	0.67	1.54	2140	2250	2850	3.5	12,170	77
				3			44.1	48.5	7.4	5.2	72.0	1.1	11.7	2.6	0.19	0.72	1.66					13,090	
				4			47.6	52.4		5.6	77.8	1.2	12.7	2.8	0.21	0.77	1.79					14,130	
Jackson	Milton	865	2	2	19	6.8	39.0	42.4	11.8	5.2	62.3	1.2	15.0	4.5	0.43	2.61	1.51	1940	1990	2280	2.0	11,230	77
				3			41.8	45.6	12.6	4.7	66.8	1.3	9.7	4.9	0.46	2.80	1.62					12,050	
				4			47.8	52.2		5.4	76.5	1.5	11.1	5.6	0.52	3.20	1.85					13,790	
Monroe	Sunsbury	993	3	2	29	2.8	35.1	47.7	14.4	5.0	68.0	1.3	8.2	3.2	0.08	2.48	0.67	2130	2150	2190	5.5	12,250	78
				3			36.2	49.0	14.8	4.8	70.0	1.3	5.8	3.3	0.08	2.55	0.69					12,610	
				4			42.5	57.5		5.6	82.1	1.5	6.8	3.9	0.10	3.00	0.81					14,800	
Noble	Beaver	958	3	2	47	2.9	38.8	50.0	8.3	5.3	72.8	1.3	9.4	2.8	0.16	1.55	1.05	2010	2130	2350	5.0	13,110	78
				3			39.9	51.5	8.6	5.2	75.0	1.3	7.0	2.9	0.17	1.60	1.09					13,510	
				4			43.7	56.3		5.7	82.1	1.4	7.7	3.1	0.18	1.75	1.19					14,780	

	Elk	925	3	2	62	2.3	36.9	48.1	12.7	5.0	71.1	1.4	6.9	2.9	0.02	2.26	0.62	2105	2215	2310	4.5	12,660	78
				3			37.7	49.3	13.0	4.9	72.7	1.4	4.9	3.0	0.02	2.31	0.64					12,960	
				4			43.4	56.6		5.6	83.6	1.7	5.7	3.4	0.02	2.66	0.73					14,890	
	Jackson	918	3	2	39	3.1	38.7	49.4	8.8	5.2	72.3	1.4	9.7	2.6	0.02	2.03	0.57	2155	2255	2355	6.0	13,070	78
				3			39.9	51.0	9.1	5.0	74.6	1.4	7.2	2.7	0.02	2.10	0.59					13,490	
				4			43.9	56.1		5.5	82.1	1.6	7.9	3.0	0.02	2.31	0.65					14,830	
		918-1	3	2	24	1.4	36.5	35.0	27.1	4.5	58.0	1.0	6.1	3.2	0.01	2.62	0.53	2255	2355	2455	1.0	10,650	78
				3			37.0	35.5	27.5	4.4	58.9	1.0	4.9	3.2	0.01	2.65	0.53					10,800	
				4			51.0	49.0		6.1	81.1	1.4	6.8	4.4	0.01	3.66	0.74					14,890	
	Wayne	951	3	2	51	2.8	40.1	47.1	10.0	5.1	69.5	1.2	9.6	4.7	0.38	3.20	1.07	1980	2030	2080	4.5	12,610	78
				3			41.2	48.5	10.3	4.9	71.5	1.2	7.4	4.8	0.39	3.29	1.10					12,970	
				4			45.9	54.1		5.4	79.6	1.4	8.2	5.3	0.44	3.67	1.23					14,460	
Vinton	Clinton	866	2	2	20	6.5	40.7	41.0	11.8	5.3	62.2	1.0	15.1	4.6	0.60	2.45	1.59	1960	2010	2240	2.5	11,230	78
				3			43.6	43.8	12.6	4.9	66.5	1.1	10.0	5.0	0.64	2.62	1.70					12,010	
				4			49.8	50.2		5.6	76.0	1.3	11.5	5.7	0.73	3.00	1.94					13,730	
		894	2	2	20	6.7	40.8	41.1	11.4	5.4	61.7	1.0	14.9	5.7	0.44	3.54	1.67	1920	1960	2000	3.0	11,260	77
				3			43.7	44.1	12.2	4.9	66.1	1.1	9.6	6.1	0.47	3.80	1.79					12,060	
				4			49.8	50.2		5.6	75.3	1.3	11.0	6.9	0.54	4.32	2.04					13,740	
UPPER FREEPORT (NO. 7) COAL																							
Belmont	Goshen	984	3	2	43	3.1	38.8	46.1	12.0	5.3	69.0	1.3	8.4	4.0	0.02	3.57	0.43	2090	2200	2310	5.0	12,570	78
				3			40.1	47.5	12.4	5.2	71.1	1.3	5.9	4.2	0.02	3.69	0.45					12,970	
				4			45.7	54.3		5.9	81.2	1.5	6.7	4.7	0.02	4.21	0.51					14,800	
	Somerset	974	3	2	48	3.7	39.1	44.3	12.9	5.0	68.2	1.2	7.5	5.2	0.01	4.21	1.01	2000	2100	2200	5.5	12,390	78
				3			40.6	46.0	13.4	4.8	70.8	1.2	4.3	5.4	0.01	4.37	1.05					12,870	
				4			46.9	53.1		5.5	81.8	1.4	5.0	6.3	0.01	5.05	1.21					14,870	
	Warren	980	3	2	38	3.1	38.2	48.3	10.4	5.3	70.7	1.3	9.0	3.3	0.01	2.52	0.73	1990	2100	2190	5.5	12,710	78
				3			39.4	49.9	10.7	5.1	73.0	1.3	6.5	3.4	0.01	2.60	0.75					13,110	
				4			44.1	55.9		5.7	81.7	1.5	7.2	3.8	0.01	2.91	0.84					14,680	
Gallia	Huntington	1030	2	2	19	6.9	38.0	43.0	12.1	5.0	61.4	1.2	15.1	5.1	0.13	2.97	2.02	2060	2170	2260	1.5	11,170	78
				3			40.8	46.2	13.0	4.5	66.0	1.3	9.7	5.5	0.13	3.19	2.17					11,990	
				4			46.9	53.1		5.2	75.8	1.5	11.2	6.3	0.15	3.66	2.50					13,780	
Guernsey	Cambridge	1103	2	2	44	6.6	35.5	54.3	3.6	5.9	73.4	1.5	15.0	0.7	0.01	0.16	0.48	2800	2800	2800	2.5	13,010	78
				3			38.1	58.1	3.8	5.5	78.6	1.6	9.7	0.7	0.01	0.17	0.51					13,930	
				4			39.6	60.4		5.7	81.8	1.6	10.1	0.7	0.01	0.18	0.53					14,480	
	Center	1078	2	2	59	5.4	36.2	50.0	8.4	5.6	68.9	1.3	12.6	3.2	0.01	1.80	1.40	1940	2060	2180	4.0	12,500	78
				3			38.3	52.8	8.9	5.3	72.8	1.4	8.2	3.4	0.01	1.90	1.48					13,210	
				4			42.0	58.0		5.8	79.9	1.5	9.0	3.7	0.01	2.09	1.63					14,500	
		1104	2	2	70	5.9	35.9	52.3	5.9	5.7	71.8	1.4	13.4	1.8	0.01	1.05	0.76	2210	2320	2410	4.5	12,880	78
				3			38.2	55.5	6.3	5.3	76.3	1.5	8.7	1.9	0.01	1.11	0.81					13,690	
				4			40.8	59.2		5.7	81.4	1.6	9.3	2.1	0.01	1.19	0.86					14,610	
		1105	2	2	58	5.1	34.9	49.3	10.7	5.3	68.0	1.3	12.1	2.5	0.01	1.53	0.96	2160	2250	2350	4.0	12,230	78
				3			36.7	52.0	11.3	5.0	71.7	1.4	8.0	2.6	0.01	1.62	1.01					12,880	
				4			41.4	58.6		5.6	80.8	1.6	9.1	3.0	0.01	1.82	1.14					14,510	
	Jackson	1107	2	2	67	5.7	36.3	52.4	5.6	5.7	72.5	1.6	13.1	1.5	0.01	0.54	0.94	2200	2320	2420	4.0	12,960	78
				3			38.5	55.6	5.9	5.3	76.9	1.7	8.5	1.6	0.01	0.57	0.99					13,750	
				4			40.9	59.1		5.7	81.7	1.8	9.1	1.7	0.01	0.61	1.05					14,610	

County	Township	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
UPPER FREEPORT (NO. 7) COAL (continued)																							
Guernsey (continued)	Millwood	966	3	2	41	4.1	31.4	37.6	26.9	4.3	52.7	1.0	8.8	6.3	0.16	4.14	2.00	2000	2100	2190	4.0	9,690	78
				3			32.7	39.2	28.1	4.0	54.9	1.0	5.3	6.6	0.16	4.32	2.09					10,110	
				4			45.5	54.5		5.6	76.4	1.4	7.4	9.1	0.23	6.00	2.90					14,050	
Hocking	Starr	897	2	2	53	8.9	36.8	48.7	5.6	5.7	68.4	1.0	17.5	1.7	0.19	0.81	0.72	2140	2260	2460	1.5	12,020	77
				3			40.4	53.4	6.2	5.2	75.1	1.2	10.5	1.9	0.21	0.89	0.79					13,190	
				4			43.0	57.0		5.5	80.1	1.2	11.2	2.0	0.22	0.95	0.84					14,060	
Monroe	Seneca	936	3	2	44	2.1	37.7	42.9	17.3	4.9	65.3	1.2	7.8	3.6	0.04	2.76	0.81	2105	2205	2315	5.0	11,930	78
				3			38.5	43.8	17.7	4.8	66.6	1.2	6.0	3.7	0.04	2.82	0.83					12,180	
				4			46.8	53.2		5.8	81.0	1.4	7.3	4.5	0.05	3.43	1.01					14,800	
		939	3	2	40	3.1	36.5	49.4	11.0	5.3	71.1	1.3	9.9	1.4	0.01	0.99	0.44	2560	2655	2745	4.5	12,760	78
				3			37.7	51.0	11.3	5.1	73.3	1.4	7.3	1.5	0.01	1.02	0.46					13,170	
				4			42.5	57.5		5.8	82.7	1.5	8.3	1.7	0.01	1.15	0.52					14,850	
		939-1	3	2	10	3.3	26.2	29.0	41.5	3.7	41.8	0.8	9.7	2.5	0.01	2.29	0.22	2800	2800	2800	1.0	7,650	78
				3			27.1	30.0	42.9	3.4	43.3	0.8	7.0	2.6	0.01	2.36	0.22					7,920	
				4			47.5	52.5		6.0	75.8	1.4	12.3	4.6	0.02	4.14	0.39					13,870	
		943	3	2	52	2.9	32.3	44.4	20.4	4.6	62.5	1.1	9.1	2.2	0.03	1.72	0.48	2515	2605	2705	5.0	11,250	78
				3			33.3	45.7	21.0	4.4	64.4	1.1	6.8	2.3	0.03	1.77	0.50					11,590	
				4			42.1	57.9		5.6	81.5	1.4	8.6	2.9	0.04	2.24	0.63					14,670	
	Summit	942	3	2	48	3.1	34.5	45.3	17.1	4.8	64.2	1.1	8.7	4.1	0.17	3.86	0.06	2105	2215	2315	4.5	11,720	78
				3			35.6	46.8	17.6	4.6	66.2	1.2	6.1	4.2	0.17	3.98	0.06					12,090	
				4			43.2	56.8		5.6	80.3	1.4	7.4	5.1	0.21	4.83	0.07					14,680	
Muskingum	Brush Creek	1090	2	2	24	5.1	41.2	46.5	7.2	5.8	69.3	1.3	12.8	3.6	0.05	2.12	1.44	1900	2020	2130	4.5	12,600	78
				3			43.5	48.9	7.6	5.5	73.0	1.4	8.7	3.8	0.05	2.23	1.52					13,280	
				4			47.0	53.0		5.9	79.1	1.5	9.4	4.1	0.06	2.42	1.64					14,370	
	Washington	1094	2	2	70	7.3	36.0	44.5	12.2	5.3	62.6	1.2	15.0	3.6	0.06	2.07	1.49	2115	2205	2315	3.5	11,330	78
				3			38.8	48.0	13.2	4.9	67.5	1.3	9.2	3.9	0.06	2.23	1.61					12,220	
				4			44.7	55.3		5.6	77.8	1.5	10.6	4.5	0.07	2.57	1.85					14,070	
Noble	Beaver	957	3	2	32	3.9	33.7	52.1	10.3	5.1	71.7	1.1	10.9	0.9	0.03	0.21	0.67	2850	2910	2910	4.0	12,670	78
				3			35.1	54.2	10.7	4.9	74.5	1.1	7.8	0.9	0.03	0.22	0.70					13,180	
				4			39.3	60.7		5.4	83.4	1.3	8.7	1.1	0.03	0.24	0.78					14,760	
	Buffalo	953	3	2	32	3.8	34.3	50.0	11.9	5.1	68.6	1.2	12.0	1.1	0.03	0.41	0.68	2910	2910	2910	4.0	12,230	78
				3			35.6	52.0	12.4	4.9	71.3	1.3	8.9	1.2	0.03	0.43	0.71					12,720	
				4			40.7	59.3		5.6	81.4	1.4	10.2	1.3	0.04	0.49	0.80					14,520	
	Seneca	961	3	2	33	3.7	36.0	49.9	10.4	5.4	70.4	1.2	10.4	2.3	0.09	1.39	0.78	2150	2240	2410	5.5	12,560	78
				3			37.4	51.8	10.8	5.2	73.1	1.2	7.3	2.3	0.09	1.44	0.81					13,050	
				4			41.9	58.1		5.8	82.0	1.4	8.2	2.6	0.10	1.62	0.91					14,630	
	Stock	921	3	2	33	2.5	37.0	45.9	14.6	5.1	67.4	1.3	9.0	2.7	0.02	1.81	0.89	2110	2210	2320	4.0	12,180	78
				3			37.9	47.2	14.9	4.9	69.1	1.3	7.0	2.8	0.02	1.86	0.91					12,490	
				4			44.6	55.4		5.8	81.2	1.5	8.2	3.3	0.02	2.18	1.07					14,680	

		926	3	2	45	2.9	34.7	42.7	19.7	4.9	62.8	1.1	8.7	2.8	0.04	1.85	0.87	2355	2455	2555	4.5	11,300	78
				3			35.8	43.9	20.3	4.7	64.6	1.2	6.3	2.8	0.04	1.91	0.89					11,630	
				4			44.9	55.1		5.9	81.1	1.5	7.9	3.6	0.05	2.39	1.12					14,590	
	Wayne	948	3	2	39	5.0	28.9	39.6	26.5	4.2	55.2	0.9	10.7	2.4	0.02	1.75	0.68	2505	2615	2705	1.0	9,800	78
				3			30.4	41.7	27.9	3.9	58.1	1.0	6.6	2.6	0.02	1.84	0.71					10,320	
				4			42.2	57.8		5.4	80.5	1.4	9.1	3.6	0.03	2.55	0.99					14,310	
Perry	Coal	1108	2	2	40	6.9	39.9	45.6	7.6	5.7	66.5	1.5	16.0	2.8	0.03	1.51	1.30	1910	2020	2140	3.5	12,240	78
				3			42.9	49.0	8.1	5.3	71.4	1.6	10.6	3.0	0.03	1.62	1.39					13,140	
				4			46.7	53.3		5.7	77.7	1.8	11.5	3.3	0.03	1.76	1.52					14,310	
	Salt Lick	1083	2	2	50	7.2	41.6	41.6	9.6	5.6	64.4	1.1	13.4	5.8	0.01	5.57	0.27	2120	2210	2300	4.0	11,850	78
				3			44.8	44.8	10.4	5.2	69.4	1.2	7.6	6.3	0.01	6.00	0.29					12,760	
				4			50.0	50.0		5.8	77.4	1.3	8.5	7.0	0.01	6.69	0.32					14,230	
Tuscarawas	Union	1058	2	2	35	7.9	31.9	50.8	9.4	5.3	66.8	1.4	16.1	1.0	0.01	0.44	0.58	2360	2450	2560	1.0	11,840	78
				3			34.6	55.2	10.2	4.8	72.6	1.5	9.9	1.1	0.01	0.47	0.63					12,850	
				4			38.6	61.4		5.3	80.8	1.6	11.0	1.2	0.01	0.53	0.70					14,310	
WILGUS COAL																							
Lawrence	Aid	909	2	2	23	7.6	37.0	46.1	9.3	4.9	64.1	1.2	17.4	3.1	0.40	0.76	1.94	1900	1940	2250	1.0	11,170	77
				3			40.0	49.9	10.1	4.4	69.3	1.3	11.5	3.4	0.44	0.82	2.10					12,080	
				4			44.5	55.5		4.9	77.1	1.5	12.8	3.7	0.49	0.91	2.33					13,440	
	Symmes	904	2	2	27	7.5	36.6	44.8	11.1	5.1	62.4	1.2	15.9	4.3	0.38	1.99	1.94	1940	2020	2250	1.0	11,210	77
				3			39.6	48.4	12.0	4.6	67.5	1.3	10.0	4.7	0.41	2.15	2.09					12,110	
				4			44.9	55.1		5.2	76.7	1.5	11.3	5.3	0.47	2.44	2.38					13,760	
ANDERSON COAL																							
Guernsey	Center	1106	2	2	25	3.3	32.4	40.9	23.4	4.7	57.0	1.1	10.1	3.7	0.02	2.25	1.43	2120	2210	2300	3.5	10,450	78
				3			33.5	42.3	24.2	4.5	58.9	1.1	7.4	3.8	0.02	2.33	1.48					10,800	
				4			44.2	55.8		5.9	77.7	1.5	9.8	5.1	0.03	3.07	1.96					14,250	
HARLEM COAL																							
Harrison	German	1061	2	2	18	4.7	33.5	54.3	7.5	5.7	73.3	1.5	11.2	0.8	0.01	0.23	0.59	2060	2150	2270	5.0	12,920	78
				3			35.1	57.1	7.8	5.4	76.9	1.5	7.4	0.9	0.01	0.25	0.61					13,560	
				4			38.1	61.9		5.9	83.4	1.7	8.1	0.9	0.01	0.27	0.67					14,710	
Jefferson	Salem	1065	2	2	25	4.1	34.5	54.1	7.3	5.3	72.3	1.6	12.8	0.7	0.01	0.26	0.48	2650	2760	2910	4.5	13,120	78
				3			36.0	56.4	7.6	5.0	75.5	1.6	9.5	0.8	0.01	0.27	0.50					13,680	
				4			39.0	61.0		5.4	81.7	1.8	10.2	0.8	0.01	0.29	0.54					14,810	
PITTSBURGH (NO. 8) COAL																							
Athens	Alexander	914	2	2	49	6.6	40.3	40.5	12.6	5.2	61.3	1.0	13.8	6.2	0.82	2.17	3.19	1910	1950	1990	3.0	11,040	77
				3			43.2	43.3	13.5	4.8	65.6	1.0	8.5	6.6	0.88	2.32	3.42					11,820	
				4			49.9	50.1		5.6	75.8	1.2	9.9	7.7	1.02	2.69	3.95					13,650	
	Bern	913	2	2	56[1]	4.8	41.5	37.5	16.2	4.9	60.4	1.0	12.0	5.5	0.70	2.47	2.34	2300	2330	2360	5.0	10,680	77
				3			43.6	39.3	17.1	4.6	63.5	1.1	8.1	5.8	0.74	2.59	2.46					11,220	
				4			52.6	47.4		5.5	76.5	1.3	9.7	7.0	0.89	3.13	2.96					13,530	
Belmont	Flushing	1053	2	2	44	4.5	38.5	47.6	9.4	5.0	68.2	1.3	11.6	4.6	0.19	2.00	2.42	2120	2210	2320	5.0	12,380	78
				3			40.3	49.8	9.9	4.7	71.4	1.3	7.9	4.8	0.19	2.09	2.53					12,960	
				4			44.7	55.3		5.2	79.2	1.5	8.8	5.3	0.22	2.32	2.81					14,380	
		1053-1	2	2	27	3.8	36.8	44.9	14.5	4.9	63.9	1.3	11.3	4.3	0.16	2.43	1.67	2020	2110	2200	7.0	11,710	78
				3			38.2	46.8	15.0	4.6	66.3	1.4	8.3	4.4	0.16	2.53	1.74					12,160	
				4			45.0	55.0		5.5	78.1	1.6	9.7	5.2	0.19	2.97	2.05					14,310	

County	Township	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
PITTSBURGH (NO. 8) COAL (continued)																							
Belmont (continued)	Goshen	983	3	2	59	2.4	43.2	43.7	10.7	5.3	68.9	1.3	7.9	5.8	0.08	3.85	1.87	2100	2210	2300	5.0	12,660	78
				3			44.3	44.7	11.0	5.2	70.6	1.3	6.0	5.9	0.08	3.94	1.92					12,970	
				4			49.7	50.3		5.8	79.3	1.5	6.7	6.7	0.09	4.43	2.15					14,570	
	Pease	1071	2	2	58	3.7	38.0	49.6	8.7	5.4	71.5	1.4	10.1	2.8	0.01	1.49	1.34	1960	2050	2160	6.5	12,810	78
				3			39.4	51.5	9.1	5.2	74.3	1.5	7.1	2.9	0.01	1.54	1.39					13,310	
				4			43.4	56.6		5.7	81.7	1.6	7.8	3.2	0.01	1.70	1.53					14,630	
		1071-1	2	2	18	2.9	33.3	42.5	21.3	4.7	58.8	1.1	7.7	6.5	0.02	5.67	0.78	2000	2120	2210	6.0	10,750	78
				3			34.3	43.8	21.9	4.5	60.6	1.2	5.2	6.7	0.02	5.84	0.81					11,080	
				4			43.9	56.1		5.8	77.6	1.5	6.7	8.5	0.03	7.48	1.03					14,190	
	Somerset	973	3	2	51	3.5	38.7	45.3	12.5	5.2	67.5	1.2	9.0	4.7	0.04	3.25	1.40	1910	2000	2110	6.0	12,350	78
				3			40.1	47.0	12.9	5.0	69.9	1.3	6.1	4.9	0.04	3.37	1.45					12,800	
				4			46.1	53.9		5.7	80.3	1.4	7.0	5.6	0.05	3.87	1.67					14,700	
	Warren	1038	2	2	48	4.3	36.5	43.2	16.0	5.0	63.8	1.2	10.1	3.9	0.01	1.90	2.00	2300	2410	2500	5.5	11,530	78
				3			38.2	45.1	16.7	4.8	66.7	1.3	6.5	4.1	0.01	1.98	2.09					12,050	
				4			45.8	54.2		5.7	80.1	1.5	7.8	4.9	0.01	2.38	2.51					14,460	
	Washington	987	3	2	91	1.9	43.8	45.3	9.0	5.2	70.8	1.2	9.2	4.7	0.10	1.79	2.82	2020	2160	2210	5.5	13,040	78
				3			44.6	46.2	9.2	5.0	72.2	1.2	7.6	4.8	0.10	1.83	2.88					13,300	
				4			49.1	50.9		5.6	79.5	1.3	8.4	5.3	0.11	2.01	3.17					14,640	
		987-1	3	2	25	2.7	37.5	41.5	18.3	4.8	61.8	1.1	7.6	6.5	0.01	5.31	1.15	1900	2010	2120	6.0	11,440	78
				3			38.5	42.7	18.8	4.6	63.5	1.1	5.3	6.7	0.01	5.46	1.19					11,760	
				4			47.4	52.6		5.7	78.2	1.3	6.6	8.2	0.01	6.72	1.46					14,480	
	Wayne	964	3	2	51	2.5	43.3	40.1	14.1	5.2	66.5	1.1	7.4	5.7	0.08	2.67	2.99	1940	2040	2130	6.0	12,130	78
				3			44.5	41.1	14.4	5.0	68.3	1.1	5.2	5.9	0.08	2.74	3.07					12,450	
				4			52.0	48.0		5.9	79.8	1.3	6.1	6.9	0.09	3.20	3.58					14,550	
	Wheeling	1046	2	2	44	4.0	35.7	51.1	9.2	5.3	70.2	1.4	11.0	2.9	0.01	1.46	1.47	2010	2120	2210	4.5	12,740	78
				3			37.2	53.3	9.5	5.1	73.2	1.4	7.7	3.1	0.01	1.52	1.53					13,270	
				4			41.2	58.8		5.6	80.9	1.6	8.5	3.4	0.01	1.68	1.69					14,670	
	York	1059	2	2	56	2.3	39.5	47.4	10.8	5.0	68.9	1.2	9.1	5.0	0.02	2.70	2.30	2060	2150	2250	6.5	12,670	78
				3			40.4	48.6	11.0	4.8	70.6	1.3	7.2	5.1	0.02	2.76	2.36					12,970	
				4			45.5	54.5		5.4	79.3	1.4	8.1	5.8	0.02	3.10	2.65					14,580	
		1059-1	2	2	18	2.9	36.5	43.2	17.4	5.1	62.4	1.1	7.3	6.6	0.03	4.19	2.41	2060	2150	2250	3.5	11,420	78
				3			37.6	44.5	17.9	4.9	64.2	1.2	4.9	6.8	0.03	4.32	2.48					11,760	
				4			45.8	54.2		6.0	78.3	1.4	6.0	8.3	0.04	5.26	3.02					14,330	
Gallia	Cheshire	880	2	2	37	5.9	42.1	42.1	9.9	5.2	65.2	1.1	14.9	3.7	0.09	1.70	1.89	2105	2210	2305	5.0	11,850	77
				3			44.7	44.8	10.5	4.8	69.2	1.2	10.3	3.9	0.09	1.81	2.01					12,590	
				4			50.0	50.0		5.4	77.4	1.3	11.5	4.4	0.10	2.02	2.24					14,080	
	Clay	878	2	2	44[2]	6.1	38.3	44.9	10.7	5.3	64.8	1.2	14.5	3.6	0.34	2.02	1.22	1910	2015	2115	4.5	11,670	77
				3			40.7	47.9	11.4	5.0	68.9	1.3	9.6	3.8	0.36	2.15	1.30					12,420	
				4			46.0	54.0		5.6	77.8	1.4	10.9	4.3	0.41	2.43	1.47					14,020	

		878-1	2	2	69[3]	4.4	25.8	27.3	42.5	3.7	39.5	0.8	10.7	2.8	0.05	1.80	0.98	2515	2615	2715	1.0	7,060	77
				3			27.0	28.5	44.5	3.3	41.3	0.8	7.1	3.0	0.05	1.89	1.02					7,380	
				4			48.6	51.4		6.0	74.5	1.4	12.7	5.3	0.09	3.40	1.84					13,300	
		878-2	2	2	12[4]	5.0	22.5	22.4	50.1	3.2	32.4	0.6	11.4	2.3	0.24	1.37	0.65	2755	2800	2800	0.5	5,660	77
				3			23.6	23.7	52.7	2.8	34.1	0.7	7.4	2.4	0.26	1.44	0.69					5,960	
				4			50.0	50.0		5.9	72.0	1.4	15.6	5.0	0.54	3.05	1.45					12,600	
	Guyan	908	2	2	40	6.4	39.6	46.8	7.2	5.5	66.7	0.6	16.6	3.4	0.35	1.70	1.34	2020	2120	2590	3.5	12,050	77
				3			42.4	49.9	7.7	5.1	71.3	0.7	11.6	3.6	0.37	1.82	1.44					12,880	
				4			45.9	54.1		5.5	77.2	0.7	12.6	3.9	0.41	1.97	1.55					13,950	
	Harrison	876	2	2	35	5.4	40.3	45.6	8.7	5.3	66.5	1.2	13.4	4.9	0.02	2.94	1.97	1915	2010	2115	4.5	12,090	77
				3			42.6	48.2	9.2	5.0	70.3	1.2	9.1	5.2	0.02	3.11	2.08					12,790	
				4			46.9	53.1		5.5	77.4	1.4	10.0	5.7	0.02	3.42	2.29					14,080	
Guernsey	Millwood	845	2	2	52	3.2	30.1	35.2	31.5	4.2	51.2	1.0	9.6	2.4	0.23	1.62	0.59	2605	2715	2800	1.0	9,220	77
				3			31.1	36.4	32.5	4.0	52.9	1.1	7.0	2.5	0.23	1.67	0.61					9,530	
				4			46.0	54.0		5.9	78.4	1.6	10.4	3.7	0.35	2.48	0.91					14,120	
	Oxford	850	2	2	38	3.7	38.7	46.1	11.5	5.2	67.0	1.3	10.1	4.8	0.24	2.67	1.94	2005	2100	2210	4.0	12,110	77
				3			40.2	47.8	12.0	5.0	69.5	1.3	7.1	5.0	0.24	2.77	2.01					12,570	
				4			45.7	54.3		5.7	79.0	1.5	8.1	5.7	0.28	3.14	2.28					14,280	
	Westland	1079	2	2	28	5.8	38.7	44.6	10.9	5.3	64.4	1.2	12.9	5.3	0.02	4.51	0.76	2000	2120	2210	4.5	11,840	78
				3			41.1	47.3	11.6	5.0	68.3	1.3	8.3	5.6	0.02	4.79	0.81					12,560	
				4			46.5	53.5		5.6	77.3	1.4	9.3	6.4	0.02	5.42	0.91					14,210	
Harrison	Athens	838	2	2	51	6.9	37.4	47.2	8.5	5.3	66.0	1.2	16.3	2.7	0.02	0.57	2.11	2155	2260	2355	1.0	11,710	77
				3			40.1	50.8	9.1	4.8	70.9	1.3	11.0	2.9	0.02	0.61	2.26					12,580	
				4			44.1	55.9		5.3	78.0	1.4	12.1	3.2	0.02	0.67	2.49					13,840	
	German	1069	2	2	44	13.8	28.8	49.6	7.8	4.9	57.5	1.2	27.7	0.8	0.01	0.19	0.60	2320	2410	2500		9,430	78
				3			33.4	57.5	9.1	3.9	66.8	1.4	17.9	0.9	0.01	0.22	0.70					10,950	
				4			36.7	63.3		4.3	73.5	1.5	19.6	1.0	0.01	0.24	0.77					12,040	
	Green	1062	2	2	57	4.6	35.4	47.9	12.1	5.2	68.3	1.3	10.7	2.4	0.04	1.06	1.31	2650	2760	2910	4.5	12,120	78
				3			37.1	50.2	12.7	4.9	71.6	1.3	6.9	2.5	0.04	1.12	1.37					12,700	
				4			42.5	57.5		5.6	82.0	1.5	7.9	2.9	0.05	1.28	1.57					14,550	
		1062-1	2	2	27	3.7	30.7	40.4	25.2	4.6	55.3	1.1	8.8	5.0	0.14	3.02	1.80	2055	2160	2260	4.5	10,060	78
				3			31.8	42.1	26.1	4.4	57.5	1.1	5.7	5.1	0.14	3.14	1.87					10,440	
				4			43.1	56.9		5.9	77.8	1.5	7.8	7.0	0.19	4.25	2.53					14,140	
	Moorefield	1054	2	2	57	6.6	36.2	44.9	12.3	5.4	65.3	1.3	12.5	3.2	0.02	1.86	1.35	2000	2110	2200	5.0	11,770	78
				3			38.7	48.2	13.1	5.0	69.9	1.4	7.2	3.5	0.02	1.99	1.44					12,590	
				4			44.6	55.4		5.8	80.4	1.6	8.3	4.0	0.02	2.30	1.66					14,500	
	Nottingham	1055	2	2	43	3.8	39.3	46.5	10.4	5.3	67.9	1.3	10.4	4.7	0.02	2.37	2.32	2050	2150	2260	5.5	12,380	78
				3			40.9	48.3	10.8	5.0	70.6	1.3	7.3	4.9	0.02	2.47	2.42					12,870	
				4			45.9	54.1		5.6	79.2	1.5	8.2	5.5	0.02	2.77	2.71					14,430	
		1057	2	2	43	5.4	37.9	45.7	11.0	5.3	66.6	1.3	12.7	3.1	0.01	1.58	1.47	2000	2120	2210	5.0	12,050	78
				3			40.1	48.2	11.7	4.9	70.4	1.4	8.3	3.2	0.01	1.67	1.55					12,740	
				4			45.4	54.6		5.6	79.7	1.6	9.4	3.7	0.01	1.89	1.76					14,430	
	Short Creek	1068	2	2	54	3.7	38.2	49.5	8.6	5.4	70.7	1.4	10.3	3.6	0.01	1.92	1.66	2010	2120	2210	4.5	12,800	78
				3			39.6	51.4	9.0	5.2	73.4	1.4	7.3	3.7	0.01	1.99	1.73					13,290	
				4			43.5	56.5		5.7	80.6	1.5	8.0	4.1	0.01	2.19	1.90					14,590	

County	Township	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
PITTSBURGH (NO. 8) COAL (continued)																							
Jefferson	Springfield	1064	2	2	60	3.7	36.8	49.6	9.9	5.1	68.1	1.3	12.1	3.4	0.01	1.91	1.50	2010	2120	2210	4.5	12,560	78
				3			38.2	51.5	10.3	4.9	70.7	1.4	9.2	3.5	0.01	1.98	1.55					13,040	
				4			42.7	57.3		5.5	78.8	1.5	10.3	4.0	0.01	2.21	1.73					14,540	
	Wayne	839	2	2	52	2.9	36.5	50.2	10.4	5.1	69.7	1.4	10.1	3.4	0.26	1.80	1.33	2105	2205	2315	6.0	12,560	77
				3			37.6	51.7	10.7	4.9	71.8	1.4	7.7	3.5	0.27	1.86	1.37					12,940	
				4			42.1	57.9		5.5	80.4	1.6	8.6	3.9	0.30	2.08	1.53					14,490	
Lawrence	Windsor	910	2	2	46	5.5	41.9	42.3	10.3	5.2	64.3	1.0	13.7	5.4	0.63	2.80	1.98	2020	2102	2250	3.0	11,580	77
				3			44.4	44.7	10.9	4.8	68.1	1.1	9.3	5.7	0.66	2.96	2.10					12,260	
				4			49.8	50.2		5.4	76.4	1.2	10.5	6.4	0.74	3.33	2.36					13,760	
Monroe	Green	997	3	2	47	2.5	42.4	45.4	9.7	5.4	70.2	1.2	7.9	5.5	0.02	3.64	1.84	2050	2150	2255	7.0	12,960	78
				3			43.5	46.5	10.0	5.3	72.0	1.2	5.8	5.6	0.02	3.74	1.88					13,290	
				4			48.4	51.6		5.8	80.0	1.4	6.5	6.3	0.02	4.15	2.09					14,760	
		998	3	2	42	2.1	43.2	42.9	11.8	5.2	68.2	1.1	7.4	6.3	0.14	3.75	2.43	1920	1970	2340	6.0	12,580	78
				3			44.1	43.8	12.1	5.1	69.7	1.1	5.6	6.5	0.15	3.83	2.48					12,840	
				4			50.2	49.8		5.8	79.2	1.2	6.4	7.3	0.17	4.35	2.82					14,600	
	Salem	989	3	2	58	2.2	42.0	46.3	9.5	5.4	70.4	1.2	7.8	5.7	0.01	4.00	1.65	2110	2200	2310	7.0	13,020	78
				3			43.0	47.3	9.7	5.3	72.0	1.3	6.0	5.8	0.01	4.09	1.69					13,320	
				4			47.6	52.4		5.8	79.7	1.4	6.6	6.4	0.01	4.53	1.87					14,750	
	Sunsbury	992	3	2	57	2.0	42.3	44.5	11.2	5.0	67.8	1.1	8.3	6.5	0.13	3.91	2.50	2200	2320	2570	6.5	12,590	78
				3			43.1	45.4	11.5	4.9	69.2	1.2	6.6	6.7	0.14	3.99	2.55					12,850	
				4			48.7	51.3		5.5	78.2	1.3	7.5	7.5	0.15	4.51	2.88					14,520	
Muskingum	Rich Hill	1101	2	2	28	5.2	37.3	43.1	14.4	5.2	62.4	1.2	11.9	4.8	0.03	2.55	2.24	2060	2170	2260	3.5	11,390	78
				3			39.3	45.5	15.2	4.9	65.9	1.3	7.7	5.1	0.03	2.69	2.36					12,020	
				4			46.4	53.6		5.8	77.6	1.5	9.1	6.0	0.04	3.17	2.78					14,160	
	Union	1091	2	2	25	5.6	38.0	46.2	10.2	5.5	66.6	1.3	13.1	3.4	0.07	1.84	1.46	1920	2010	2120	4.0	12,020	78
				3			40.3	48.9	10.8	5.2	70.5	1.4	8.6	3.6	0.07	1.95	1.54					12,730	
				4			45.2	54.8		5.8	79.1	1.6	9.6	4.0	0.08	2.19	1.73					14,280	
		1093	2	2	31	5.3	39.0	44.2	11.5	5.4	64.1	1.2	11.9	5.9	0.07	2.95	2.86	1920	2010	2120	4.0	11,790	78
				3			41.2	46.6	12.2	5.0	67.7	1.3	7.6	6.2	0.07	3.12	3.03					12,450	
				4			46.9	53.1		5.7	77.1	1.5	8.6	7.1	0.08	3.55	3.44					14,180	
REDSTONE (NO. 8A) COAL																							
Gallia	Clay	879	2	2	18	5.5	38.7	38.5	17.3	4.9	58.3	1.0	12.5	5.9	0.36	3.27	2.26	1905	2005	2110	3.0	10,710	77
				3			41.0	40.7	18.3	4.6	61.7	1.1	8.0	6.2	0.38	3.46	2.39					11,330	
				4			50.1	49.9		5.6	75.6	1.3	9.8	7.6	0.47	4.23	2.93					13,870	
	Guyan	874	2	2	58	5.9	40.5	45.1	8.5	5.6	66.0	1.1	14.1	4.7	0.13	2.77	1.82	1905	2015	2115	4.5	12,070	77
				3			43.0	48.0	9.0	5.2	70.1	1.2	9.4	5.0	0.13	2.94	1.93					12,820	
				4			47.3	52.7		5.8	77.1	1.3	10.3	5.5	0.15	3.23	2.12					14,090	

	Harrison	877	2	2	17	8.3	36.4	46.0	9.3	5.3	64.3	1.1	16.5	3.5	0.30	2.17	1.06	1955	2055	2160	2.5	11,460	77
				3			39.7	50.2	10.1	4.8	70.1	1.2	10.0	3.8	0.32	2.37	1.15					12,500	
				4			44.2	55.8		5.3	78.0	1.3	11.1	4.3	0.36	2.64	1.28					13,910	
	Walnut	875	2	2	24	6.2	41.8	42.0	10.0	5.4	65.0	1.1	13.7	4.6	0.06	3.01	1.54	1905	2005	2115	4.5	11,890	77
				3			44.6	44.7	10.7	5.1	69.3	1.2	8.8	4.9	0.06	3.21	1.65					12,670	
				4			49.9	50.1		5.7	77.6	1.4	9.9	5.5	0.07	3.59	1.84					14,180	
Harrison	Archer	1056	2	2	22	4.4	36.4	48.8	10.4	5.2	68.7	1.3	12.2	2.2	0.01	1.04	1.14	2400	2510	2600	5.5	12,380	78
				3			38.0	51.2	10.8	4.9	71.8	1.4	8.7	2.3	0.01	1.08	1.20					12,950	
				4			42.7	57.3		5.5	80.6	1.5	9.8	2.6	0.01	1.21	1.34					14,520	
	Green	1063	2	2	18	7.3	34.1	49.5	9.1	5.5	68.5	1.4	14.8	0.8	0.01	0.19	0.62	2050	2160	2250	1.0	11,930	78
				3			36.8	53.4	9.8	5.1	73.9	1.5	8.9	0.9	0.01	0.21	0.67					12,880	
				4			40.7	59.3		5.6	81.9	1.6	9.8	1.0	0.01	0.23	0.74					14,270	
	Short Creek	1067	2	2	17	3.6	39.2	47.6	9.6	5.4	70.6	1.4	10.6	2.4	0.01	1.39	1.00	2560	2660	2750	6.0	12,650	78
				3			40.7	49.4	9.9	5.2	73.3	1.4	7.7	2.5	0.01	1.44	1.03					13,120	
				4			45.2	54.8		5.8	81.4	1.6	8.5	2.8	0.01	1.60	1.15					14,560	
Jefferson	Smithfield	1070	2	2	25	4.4	35.9	49.4	10.3	5.3	69.8	1.3	11.6	1.7	0.01	0.80	0.89	2420	2510	2600	6.5	12,470	78
				3			37.5	51.7	10.8	5.0	73.1	1.4	8.0	1.8	0.01	0.84	0.93					13,060	
				4			42.1	57.9		5.6	81.9	1.6	9.0	2.0	0.01	0.94	1.04					14,630	
Lawrence	Mason	1031	2	2	24	6.0	42.0	45.0	7.0	5.5	68.3	1.3	14.4	3.5	0.01	1.90	1.61	2020	2100	2200	4.5	12,440	78
				3			44.7	47.9	7.4	5.1	72.7	1.4	9.7	3.7	0.01	2.02	1.71					13,230	
				4			48.2	51.8		5.6	78.5	1.5	10.4	4.0	0.01	2.19	1.85					14,290	
		1031-1	2	2	13	6.1	40.9	45.0	8.0	5.6	67.5	1.1	13.8	3.9	0.05	2.11	1.73	2010	2120	2210	5.0	12,150	78
				3			43.5	48.0	8.5	5.2	71.9	1.2	8.9	4.1	0.05	2.25	1.85					12,940	
				4			47.6	52.4		5.7	78.6	1.3	9.8	4.5	0.06	2.46	2.02					14,150	
Monroe	Sunsbury	991	3	2	33	2.3	35.8	40.7	21.2	4.7	60.4	1.3	7.5	4.9	0.08	3.48	1.36	2140	2170	2200	5.0	11,020	78
				3			36.7	41.6	21.7	4.5	61.8	1.3	5.6	5.0	0.08	3.56	1.39					11,280	
				4			46.8	53.2		5.8	78.9	1.7	7.2	6.4	0.10	4.55	1.78					14,410	
FISHPOT COAL																							
Belmont	Goshen	982	3	2	29	3.4	31.8	34.9	29.9	4.4	53.6	1.0	6.4	4.7	0.03	1.92	2.73	1955	2055	2145	5.0	9,680	78
				3			33.0	36.1	30.9	4.2	55.5	1.0	3.5	4.8	0.03	1.98	2.83					10,010	
				4			47.7	52.3		6.0	80.4	1.5	5.1	7.0	0.04	2.87	4.09					14,500	
	York	1060	2	2	18	4.6	32.7	42.3	20.4	4.6	58.8	1.1	11.5	3.6	0.02	1.42	2.16	2060	2170	2260	7.0	10,610	78
				3			34.3	44.3	21.4	4.3	61.6	1.1	7.8	3.8	0.02	1.49	2.27					11,130	
				4			43.7	56.3		5.5	78.4	1.4	9.9	4.8	0.03	1.90	2.88					14,160	
Monroe	Salem	985	3	2	28	3.0	36.3	37.6	23.1	4.5	57.8	1.1	9.1	4.4	0.03	1.69	2.72	2000	2120	2200	5.5	10,760	78
				3			37.4	38.8	23.8	4.3	59.6	1.1	6.6	4.6	0.03	1.75	2.80					11,100	
				4			49.1	50.9		5.6	78.2	1.5	8.7	6.0	0.04	2.29	3.68					14,560	
MEIGS CREEK (NO. 9) COAL																							
Belmont	Flushing	1052	2	2	37	5.5	33.7	45.5	15.3	5.2	62.8	1.3	12.0	3.5	0.01	1.92	1.53	2000	2120	2210	5.0	11,380	78
				3			35.7	48.1	16.2	4.9	66.4	1.3	7.6	3.7	0.01	2.03	1.62					12,040	
				4			42.6	57.4		5.8	79.2	1.6	9.0	4.4	0.01	2.42	1.93					14,370	
	Goshen	981	3	2	41	3.9	38.3	43.0	14.8	5.3	66.6	1.2	9.4	2.7	0.01	1.06	1.63	2170	2260	2350	5.5	11,930	78
				3			39.8	44.8	15.4	5.0	69.3	1.3	6.2	2.8	0.01	1.10	1.70					12,420	
				4			47.1	52.9		6.0	81.9	1.5	7.3	3.3	0.01	1.30	2.01					14,670	
		1040	2	2	49	3.6	39.1	48.3	9.0	5.3	70.8	1.3	10.6	2.9	0.02	0.99	1.93	2060	2150	2260	5.0	12,750	78
				3			40.6	50.0	9.4	5.1	73.5	1.4	7.6	3.0	0.02	1.02	2.00					13,230	
				4			44.8	55.2		5.7	81.0	1.5	8.4	3.4	0.02	1.03	2.20					14,590	

County	Township	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
MEIGS CREEK (NO. 9) COAL (continued)																							
Belmont (continued)	Goshen (continued)	1040-1	2	2	12	2.4	36.7	40.6	20.3	4.7	61.5	1.2	9.3	3.0	0.02	1.51	1.49	2210	2320	2410	5.0	11,230	78
				3			37.6	41.6	20.8	4.5	63.1	1.3	7.3	3.1	0.02	1.55	1.53					11,510	
				4			47.4	52.6		5.7	79.6	1.6	9.2	3.9	0.03	1.95	1.93					14,520	
	Kirkwood	840	2	2	34	6.0	44.2	42.6	7.2	5.6	66.7	1.2	14.3	5.1	0.01	2.87	2.17	2080	2130	2300	3.0	12,240	77
				3			47.0	45.4	7.6	5.2	71.0	1.3	9.5	5.4	0.01	3.05	2.31					13,030	
				4			50.9	49.1		5.7	76.8	1.4	10.3	5.8	0.01	3.31	2.50					14,100	
		844	2	2	44	3.6	38.8	48.0	9.6	5.3	70.2	1.4	11.0	2.5	0.24	1.39	0.85	2155	2255	2355	5.0	12,590	77
				3			40.3	49.7	10.0	5.0	72.8	1.4	8.2	2.6	0.25	1.44	0.88					13,060	
				4			44.7	55.3		5.6	80.9	1.6	9.1	2.9	0.27	1.60	0.98					14,510	
	Union	1047	2	2	35	4.4	37.1	48.7	9.8	4.9	70.2	1.2	11.4	2.6	0.01	1.04	1.51	2160	2260	2350	4.5	12,500	78
				3			38.8	51.0	10.2	4.6	73.4	1.3	7.8	2.7	0.01	1.09	1.58					13,070	
				4			43.3	56.7		5.1	81.8	1.4	8.7	3.0	0.01	1.21	1.76					14,560	
		1048	2	2	52	3.3	39.0	46.3	11.4	5.2	68.2	1.2	10.8	3.1	0.01	1.05	2.08	2220	2310	2420	5.0	12,400	78
				3			40.4	47.8	11.8	5.0	70.6	1.3	8.1	3.2	0.01	1.08	2.16					12,830	
				4			45.8	54.2		5.7	80.0	1.4	9.2	3.7	0.01	1.23	2.44					14,550	
	Warren	1037	2	2	39	3.6	37.3	47.5	11.6	5.1	67.3	1.3	10.7	4.0	0.01	2.06	1.89	2020	2110	2220	4.5	12,260	78
				3			38.7	49.3	12.0	4.9	69.9	1.4	7.7	4.1	0.01	2.13	1.96					12,720	
				4			43.9	56.1		5.6	79.4	1.5	8.8	4.7	0.01	2.42	2.23					14,460	
	Wheeling	849	2	2	43	5.8	43.9	42.8	7.5	5.5	66.1	1.2	14.7	5.0	0.43	2.64	1.92	2005	2105	2205	4.0	12,230	77
				3			46.5	45.5	8.0	5.1	70.1	1.3	10.2	5.3	0.45	2.81	2.04					12,970	
				4			50.6	49.4		5.6	76.2	1.4	11.1	5.8	0.49	3.05	2.22					14,100	
		849-1	2	2	12	2.6	34.3	39.8	23.3	4.6	57.6	1.3	8.8	4.4	0.18	2.92	1.26	1095	1155	1210	5.0	10,530	77
				3			35.2	40.9	23.9	4.4	59.1	1.3	6.7	4.5	0.18	3.00	1.29					10,810	
				4			46.3	53.7		5.8	77.7	1.8	8.8	5.9	0.24	3.94	1.70					14,200	
		1050	2	2	49	3.0	40.7	45.1	11.2	5.2	68.6	1.3	10.1	3.6	0.01	1.46	2.17	2060	2140	2250	4.5	12,470	78
				3			42.0	46.5	11.5	5.0	70.7	1.3	7.7	3.8	0.01	1.50	2.24					12,850	
				4			47.5	52.5		5.7	79.9	1.5	8.7	4.2	0.01	1.70	2.53					14,520	
	York	1051	2	2	23	3.6	38.6	44.1	13.7	4.8	66.6	1.2	9.4	4.2	0.11	1.89	2.23	2060	2140	2260	4.5	12,000	78
				3			40.0	45.7	14.3	4.6	69.1	1.2	6.4	4.4	0.11	1.96	2.31					12,450	
				4			46.7	53.3		5.3	80.6	1.5	7.5	5.1	0.13	2.29	2.69					14,520	
Guernsey	Oxford	1033	2	2	37	5.0	35.4	48.3	11.3	5.2	66.4	1.2	14.3	1.5	0.01	0.22	1.30	2620	2710	2910	1.0	11,790	78
				3			37.3	50.7	12.0	4.9	69.9	1.3	10.4	1.6	0.01	0.23	1.37					12,420	
				4			42.4	57.6		5.5	79.4	1.5	11.8	1.8	0.01	0.27	1.55					14,100	
Harrison	Short Creek	847	2	2	40	4.1	37.6	48.6	9.7	5.1	68.8	1.3	11.6	3.5	0.01	1.92	1.59	1990	2040	2260	5.0	12,420	77
				3			39.3	50.6	10.1	4.8	71.8	1.4	8.3	3.7	0.01	2.00	1.66					12,950	
				4			43.7	56.3		5.4	79.8	1.5	9.2	4.1	0.01	2.23	1.85					14,400	
		1066	2	2	35	4.6	36.7	38.5	20.2	4.7	60.4	1.1	11.5	2.1	0.01	1.12	0.96	2000	2110	2200	5.5	10,670	78
				3			38.4	40.4	21.2	4.4	63.3	1.1	7.8	2.2	0.01	1.18	1.00					11,180	
				4			48.8	51.2		5.6	80.3	1.5	9.9	2.8	0.01	1.49	1.27					14,190	

Monroe	Sunsbury	990	3	2	34	2.9	38.1	41.2	17.8	4.9	63.0	1.5	7.8	5.1	0.16	2.66	2.23	1940	2020	2350	6.0	11,550	78
				3			39.2	42.5	18.3	4.7	64.9	1.5	5.4	5.2	0.16	2.74	2.30					11,890	
				4			48.0	52.0		5.8	79.4	1.8	6.6	6.4	0.20	3.36	2.81					14,560	
Muskingum	Meigs	1100	2	2	52	4.1	38.9	42.3	14.7	5.2	62.7	1.0	10.5	5.9	0.01	2.67	3.26	2010	2100	2200	6.0	11,530	78
				3			40.5	44.1	15.4	4.9	65.3	1.1	7.2	6.2	0.01	2.79	3.40					12,020	
				4			47.9	52.1		5.8	77.2	1.3	8.5	7.3	0.01	3.30	4.02					14,200	
	Union	1092	2	2	56	7.0	32.6	43.3	17.1	5.0	58.3	1.0	15.3	3.2	0.19	1.48	1.55	2410	2500	2610	1.0	10,500	78
				3			35.1	46.5	18.4	4.6	62.7	1.1	9.7	3.5	0.20	1.59	1.67					11,300	
				4			43.0	57.0		5.6	76.9	1.3	11.9	4.2	0.25	1.94	2.04					13,840	
Noble	Brookfield	1102	2	2	49	4.2	39.2	44.5	12.1	5.5	65.4	1.1	10.8	5.1	0.01	2.01	3.07	1910	2000	2120	4.5	11,960	78
				3			40.9	46.4	12.7	5.2	68.3	1.1	7.4	5.3	0.01	2.10	3.21					12,490	
				4			46.9	53.1		6.0	78.2	1.3	8.5	6.1	0.01	2.40	3.68					14,300	
	Jackson	1110	2	2	38	3.2	38.5	45.0	13.3	5.2	66.4	1.2	10.3	3.5	0.01	1.78	1.74	2210	2320	2410	6.0	12,150	78
				3			39.8	46.4	13.8	5.0	68.6	1.3	7.7	3.6	0.01	1.83	1.79					12,550	
				4			46.1	53.9		5.8	79.6	1.5	8.9	4.2	0.01	2.13	2.08					14,560	
Washington	Aurelius	1109	2	2	42	3.1	38.0	45.9	13.0	5.2	67.1	1.3	9.5	3.9	0.03	1.63	2.23	2060	2160	2250	4.0	12,220	78
				3			39.2	47.3	13.5	5.0	69.3	1.3	7.0	4.0	0.03	1.68	2.30					12,610	
				4			45.3	54.7		5.8	80.0	1.5	8.1	4.6	0.04	1.95	2.66					14,570	
UNIONTOWN (NO. 10) COAL																							
Muskingum	Meigs	1099	2	2	17	6.0	37.5	42.4	14.3	5.3	61.8	1.1	14.1	3.4	0.01	1.49	1.95	2260	2350	2460	4.5	11,250	78
				3			39.9	44.9	15.2	4.9	65.7	1.1	9.3	3.7	0.01	1.58	2.07					11,970	
				4			47.0	53.0		5.8	77.5	1.3	11.0	4.3	0.01	1.87	2.45					14,120	
WAYNESBURG (NO. 11) COAL																							
Belmont	Colerain	1042	2	2	33	3.8	34.1	42.4	19.7	4.9	60.5	0.6	9.5	4.8	0.14	3.71	1.00	2100	2210	2320	5.0	11,010	78
				3			35.4	44.1	20.5	4.6	62.9	0.6	6.4	5.0	0.14	3.86	1.04					11,440	
				4			44.5	55.5		5.8	79.0	0.7	8.0	6.3	0.18	4.85	1.31					14,380	
		1044	2	2	29	4.2	33.2	42.2	20.4	4.7	58.3	1.1	11.3	4.1	0.03	2.60	1.51	2060	2150	2250	4.5	10,720	78
				3			34.7	44.0	21.3	4.5	60.8	1.2	7.9	4.3	0.03	2.71	1.57					11,190	
				4			44.0	56.0		5.7	77.3	1.5	10.1	5.5	0.04	3.44	2.00					14,210	
	Pease	1045	2	2	31	4.1	31.8	41.8	22.3	4.5	58.0	1.2	10.1	3.9	0.18	2.28	1.46	2510	2620	2710	5.0	10,500	78
				3			33.1	43.6	23.3	4.2	60.5	1.2	6.8	4.1	0.18	2.37	1.52					10,950	
				4			43.2	56.8		5.4	78.8	1.6	8.8	5.3	0.24	3.09	1.99					14,270	
	Smith	1039	2	2	49	3.8	34.3	45.7	16.2	4.9	64.4	1.3	10.9	2.2	0.01	1.02	1.18	2555	2655	2745	4.5	11,580	78
				3			35.7	47.4	16.9	4.7	67.0	1.3	7.8	2.3	0.01	1.06	1.23					12,040	
				4			43.0	57.0		5.6	80.6	1.6	9.4	2.8	0.01	1.28	1.48					14,490	
	Union	848	2	2	38	4.6	34.4	44.9	16.1	4.9	63.4	1.2	11.7	2.8	0.01	1.57	1.23	2190	2270	2490	4.0	11,350	77
				3			36.1	47.0	16.9	4.6	66.4	1.2	8.0	2.9	0.01	1.65	1.29					11,890	
				4			43.4	56.6		5.5	79.9	1.5	9.6	3.5	0.01	1.98	1.55					14,310	
		1036	2	2	21	5.3	34.3	46.9	13.5	5.3	65.4	0.6	12.2	2.9	0.01	1.21	1.70	2060	2170	2260	5.0	11,710	78
				3			36.2	49.6	14.2	4.9	69.1	0.7	7.9	3.1	0.01	1.28	1.79					12,370	
				4			42.2	57.8		5.8	80.6	0.8	9.2	3.6	0.01	1.49	2.09					14,430	
	Warren	1034	2	2	38	4.5	33.4	41.7	20.4	4.6	58.9	1.1	11.8	3.2	0.01	1.75	1.44	2420	2510	2610	4.0	10,740	78
				3			35.0	43.7	21.3	4.3	61.8	1.1	8.2	3.4	0.01	1.83	1.51					11,250	
				4			44.4	55.6		5.5	78.5	1.4	10.4	4.3	0.01	2.32	1.92					14,300	
	Wheeling	1049	2	2	43	12.8	29.2	42.8	15.2	4.7	54.9	1.1	23.3	0.7	0.01	0.14	0.59	2540	2650	2760		9,450	78
				3			33.5	49.1	17.4	3.8	63.0	1.3	13.6	0.8	0.01	0.16	0.67					10,840	
				4			40.6	59.4		4.6	76.3	1.6	16.5	1.0	0.01	0.19	0.82					13,120	

County	Township	OGS file no.	Kind	Condition	Analyzed thickness (nearest in)	Proximate (%)				Ultimate (%)					Forms of sulfur (%)			Fusibility of ash				Heating value (Btu)	Year
						Moisture	Volatile matter	Fixed carbon	Ash	Hydrogen	Carbon	Nitrogen	Oxygen	Total sulfur	Sulfate	Pyritic	Organic	Initial deformation temperature (°F)	Softening temperature (°F)	Fluid temperature (°F)	Free-swelling index		
WAYNESBURG (NO. 11) COAL (continued)																							
Jefferson	Warren	846	2	2	37	4.3	38.5	49.0	8.2	5.4	70.6	1.4	11.7	2.8	0.01	1.57	1.22	2030	2130	2330	4.5	12,650	77
				3			40.2	51.2	8.6	5.1	73.7	1.4	8.2	2.9	0.01	1.64	1.28					13,220	
				4			44.0	56.0		5.6	80.7	1.6	9.0	3.2	0.01	1.79	1.40					14,460	
WAYNESBURG A (NO. 11A) COAL																							
Belmont	Warren	1035	2	2	13	4.5	27.2	33.5	34.8	3.9	46.2	0.8	10.7	3.6	0.01	1.82	1.81	2320	2410	2520	1.0	8,420	78
				3			28.5	35.1	36.4	3.6	48.4	0.8	6.9	3.8	0.01	1.90	1.89					8,820	
				4			44.7	55.3		5.6	76.2	1.3	10.9	6.0	0.02	2.99	2.97					13,860	
WASHINGTON (NO. 12) COAL																							
Belmont	Colerain	1041	2	2	69	4.0	34.2	40.3	21.5	4.7	60.0	0.7	11.6	1.5	0.01	0.65	0.82	2910	2910	2910	1.5	10,750	78
				3			35.6	42.0	22.4	4.5	62.5	0.8	8.4	1.5	0.01	0.67	0.86					11,190	
				4			45.9	54.1		5.8	80.5	1.0	10.8	2.0	0.01	0.87	1.10					14,420	
	Pease	841	2	2	72[5]	2.0	29.7	33.2	35.1	3.9	49.1	1.0	8.5	2.5	0.23	1.70	0.60	2800	2800	2800		8,770	77
				3			30.3	33.9	35.8	3.7	50.1	1.0	6.8	2.6	0.23	1.73	0.61					8,950	
				4			47.2	52.8		5.8	78.0	1.5	10.6	4.0	0.36	2.70	0.95					13,940	
		842	2	2	59[6]	4.3	34.5	41.8	19.4	4.7	60.2	1.2	10.4	4.1	0.06	2.58	1.45	2155	2255	2355	4.5	10,880	77
				3			36.0	43.8	20.2	4.4	62.9	1.3	6.9	4.3	0.06	2.70	1.51					11,370	
				4			45.1	54.9		5.6	78.8	1.6	8.7	5.4	0.08	3.38	1.90					14,250	
		1043	2	2	66	4.2	29.8	38.0	28.0	4.3	54.0	1.0	10.6	2.0	0.04	0.96	0.96	2515	2615	2715	1.0	9,620	78
				3			31.1	39.7	29.2	4.0	56.4	1.1	7.2	2.0	0.04	1.00	1.00					10,040	
				4			43.9	56.1		5.7	79.6	1.5	10.2	2.9	0.06	1.42	1.42					14,180	
NOT DESIGNATED																							
Monroe	Sunsbury	996	3	2	34	1.6	37.0	45.7	15.7	5.0	68.2	1.2	7.6	2.4	0.02	1.54	0.80	2910	2910	2910	4.5	12,340	78
				3			37.6	46.5	15.9	4.9	69.3	1.2	6.2	2.4	0.02	1.56	0.81					12,540	
				4			44.8	55.2		5.9	82.5	1.4	7.4	2.8	0.03	1.86	0.97					14,920	
Noble	Center	931	3	2	27	1.6	39.2	44.4	14.8	5.2	68.0	1.1	7.7	3.1	0.06	2.50	0.54	2140	2190	2390	4.5	12,320	78
				3			39.9	45.0	15.1	5.1	69.1	1.1	6.4	3.2	0.06	2.54	0.55					12,520	
				4			46.9	53.1		6.0	81.4	1.3	7.5	3.7	0.07	3.00	0.64					14,750	
	Marion	947	3	2	31	2.4	35.0	43.4	19.2	5.0	62.1	1.2	8.0	4.6	0.02	3.44	1.10	2205	2305	2405	5.0	11,500	78
				3			35.9	44.4	19.7	4.8	63.6	1.2	6.0	4.7	0.02	3.53	1.12					11,780	
				4			44.6	55.4		6.0	79.2	1.5	7.5	5.8	0.03	4.39	1.40					14,670	
	Seneca	963	3	2	30	2.5	27.1	27.5	42.9	3.7	42.2	0.9	8.2	2.1	0.01	1.48	0.60	2910	2910	2910	1.0	7,580	78
				3			27.8	28.2	44.0	3.5	43.3	0.9	6.1	2.1	0.01	1.52	0.62					7,780	
				4			49.6	50.4		6.3	77.4	1.6	10.9	3.8	0.02	2.71	1.10					13,890	

Tables 3 through 6 accompany report

TABLE 7.–*Recalculated thorium values, all samples*

The U.S. Geological Survey recalculated thorium values for analyses reported in Botoman and Stith (1978), Couchot and others (1980), and this report. Values are in parts per million, whole-coal basis, determined by neutron activation analysis.

B - no data available L - less than value shown

OGS file no.	Th	OGS file no.	Th	OGS file no.	Th	OGS file no.	Th	OGS file no.	Th
718	B	776B	1.7	789A	4.1	815	1.5	876	0.9
719	B	776C	2.9	789B	3.1	838	1.3	877	1.2
720	B	776D	1.0	790A	3.5	839	1.6	878	1.4
721	B	777A	3.2	790B	2.5	840	1.3	878-1	7.5
722	B	777B	5.3	791A	3.4	841	6.1	878-2	9.4
723	B	777C	3.3	791B	4.5	842	6.2	879	2.2
724	B	777D	1.0	792A	1.9	843	2.2	880	1.7
725	B	777E	3.5	792B	2.0	843-1	3.8	881	2.5
726	B	778A	2.8	792C	1.6	843-2	2.5	882	1.5
727	B	778B	2.5	793A	4.3	843-3	2.1	883	2.0
728	B	778C	3.0	793B	3.2	844	2.0	884	1.1
729	B	778D	6.1	793C	2.8	845	1.4	885	5.0
730	3.0L	778E	2.8	794	1.8	846	2.8	886	3.5
730A	3.0L	779A	4.3	795	1.3	847	2.4	887	2.0
731	B	779B	3.3	796	1.3	848	2.7	888	1.0
732	B	779C	2.1	797	2.0	849	1.7	889	9.6
733	5.8	779D	2.9	798	1.4	849-1	3.5	889-1	1.9
734	B	780A	2.9	799A	0.3L	850	1.4	890	1.9
735	3.0L	780B	2.3	799B	1.9	851	2.4	891	0.7
736	1.7	780C	3.3	799C	0.3L	851-1	2.5	892	1.4
736A	3.0L	780D	2.7	799D	2.4	852	2.4	893	2.1
737A	1.6	781A	1.0	800	0.4L	853	0.8	894	1.3
737B	3.1	781B	0.7	801A	0.6	853-1	2.2	895	7.0
738A	1.7	781C	2.8	801B	3.9	854	1.6	895-1	2.0
738B	1.3	782A	0.2L	802A	0.4	855	2.2	896	1.7
738C	1.4	782B	0.3L	802B	1.1	856	2.1	897	1.2
739	1.1	782C	5.5	802C	5.5	857	2.4	898	3.7
740A	0.6	783A	6.1	803	1.7	858	1.8	899	1.9
740B	0.5	783B	4.6	804A	1.8	859	3.4	900	1.6
740C	3.1	783C	1.3	804B	12.4	860	1.5	901	2.2
741	4.3	784A	1.3	804C	1.8	861	1.6	902	2.3
742A	0.6	784B	2.0	804D	7.0	861-1	2.9	903	2.4
742B	3.1	784C	1.9	805	2.4	861-2	6.5	904	1.2
743A	0.2	785A	1.2	806A	2.2	862	2.8	905	2.1
743B	0.4	785B	0.8	806B	0.4	863	2.2	906	2.1
743C	6.5	785C	0.9	806C	1.7	864	1.6	907	2.4
743D	3.4	785D	1.1	806D	0.6L	865	1.6	908	1.0
744	2.3	785E	6.1	807A	2.2	866	1.7	909	1.2
745A	0.9	785F	1.0	807B	14.5	867	1.9	910	1.5
745B	1.4	785G	1.4	807C	2.0	868	1.9	911	2.2
745C	2.5	785H	1.5	807D	3.1	869	4.1	912	1.8
745D	1.4	786A	1.2	808	4.3	870	1.3	913	1.0
770	1.1	786B	2.6	809	1.5	871	3.7	914	1.1
771	2.8	786C	0.9	810	1.5	872	1.3	915	2.1
772	1.4	786D	1.3	811A	2.3	873	1.8	916	2.3
773	0.8	787A	2.7	811B	4.0	873-1	1.3	917	1.0
774	1.9	787B	2.6	812A	2.7	873-2	2.1	918	2.0
775A	1.8	787C	3.3	812B	3.9	873-3	3.1	918-1	6.9
775B	0.7	787D	2.6	813	1.4	874	1.0	919	1.6
776A	6.1	788	3.5	814	2.3	875	2.2	920	7.6

TABLE 7.–*Recalculated thorium values, all samples*–continued

OGS file no.	Th	OGS file no.	Th	OGS file no.	Th	OGS file no.	Th
921	1.4	974	1.5	1039	3.1	1092	2.8
922	2.8	975	2.2	1040	1.2	1093	1.7
923	2.9	976	3.9	1040-1	3.5	1094	3.0
924	3.2	977	2.0	1041	4.8	1095	1.4
925	2.8	978	1.7	1042	3.3	1096	0.9
926	12.9	979	1.8	1043	4.9	1097	0.5
927	0.9	979-1	7.5	1044	3.8	1098	1.6
928	1.5	980	1.7	1045	3.4	1099	2.8
929	3.0	981	3.4	1046	1.3	1100	2.3
929-1	3.8	982	7.9	1047	1.7	1101	2.2
930	2.8	983	1.9	1048	1.5	1102	1.9
931	3.5	984	2.2	1049	2.8	1103	1.0
932	3.7	985	3.1	1050	1.9	1104	1.5
933	6.0	986	1.9	1051	2.1	1105	2.0
934	7.3	986-1	7.3	1052	1.8	1106	4.2
934-1	2.0	987	2.4	1053	1.0	1107	1.2
935	2.1	987-1	2.3	1053-1	3.0	1108	2.4
936	1.1	988	3.2	1054	1.8	1109	1.7
937	2.6	989	1.5	1055	1.4	1110	2.5
938	2.2	990	2.8	1056	2.6	1111	0.8
939	2.7	991	3.6	1057	1.6	1112	1.8
939-1	1.3	992	1.0	1058	1.7	1113	1.8
940	2.2	993	2.3	1059	1.2	1114	1.3
941	4.1	994	1.5	1059-1	2.3	1115	0.5
942	1.8	995	0.8	1060	2.5	1116	1.6
943	1.2	996	5.2	1061	1.7	1117	0.8
944	7.8	997	1.1	1062	1.5	1118	0.5
945	18.3	998	1.1	1062-1	3.8	1119	0.6
946	1.0	999	1.0	1063	1.7	1120	4.9
947	2.5	1000	2.8	1064	1.5	1121	2.8
948	3.6	1011	1.3	1065	1.5	1122	1.4
949	6.3	1012	1.9	1066	2.5	1123	1.2
950	4.4	1013	1.9	1067	1.7	1124	0.8
951	1.5	1014	2.7	1068	1.0	1125	0.4
952	1.0	1015	2.9	1069	1.6	1126	0.5
953	3.7	1016	1.0	1070	1.9	1127	0.8
954	1.1	1017	1.5	1071	1.7		
955	1.3	1018	1.3	1071-1	2.9		
956	1.3	1019	1.6	1072	0.8		
957	2.1	1019-1	2.7	1072-1	5.7		
958	1.5	1020	2.2	1073	1.0		
959	0.8	1021	5.1	1074	1.5		
959-1	8.9	1022	0.9	1075	2.8		
960	3.6	1023	4.9	1076	1.4		
960-1	7.4	1024	2.4	1077	0.9		
961	2.1	1025	2.6	1078	1.5		
962	2.5	1026	4.8	1079	1.6		
963	11.5	1027	1.8	1080	1.4		
964	2.1	1028	1.3	1081	0.7		
965	3.2	1029	1.6	1082	1.7		
966	5.1	1030	1.6	1083	0.9		
967	3.0	1031	1.1	1084	1.2		
968	1.4	1031-1	1.3	1085	1.1		
969	1.7	1032	2.9	1085-1	4.3		
970	0.6	1033	1.7	1086	1.0		
971	1.6	1034	3.1	1087	0.9		
971-1	13.2	1035	5.3	1088	3.3		
972	1.3	1036	1.7	1089	0.8		
972-1	10.1	1037	1.3	1090	1.1		
973	1.7	1038	2.3	1091	1.8		

TABLE 3.—*Major, minor, and trace element composition, whole-coal basis, by county*

Key to symbols:
Method (column heads):
E - by emission spectrography on ash
NA - by neutron activation on whole coal
WA - by wet chemistry on ash
WW - by wet chemistry on whole coal
XA - by X-ray fluorescence on ash
XW - by X-ray fluorescence on whole coal
B - no data available
G - greater than value shown
H - not determined due to interference
L - less than value shown
N - not detected

Analyses were performed by the U.S. Geological Survey. The analytical program of the U.S. Geological Survey is periodically revised and improved. The values reported represent the best data available at the time of manuscript preparation. Those determinations made by chemistry are quantitative; the remaining methods are considered semiquantitative.
The following elements were looked for but not reported: Os, Pd, Pt, Re, Ru, Ts, Te, Tm.
For thorium values see table 7.

| Township | Seam | OGS file no. | Si % XA | Al % XA | Ca % XA | Mg % XA | Na % XA | K % XA | Fe % XA | Ti % XA | Ag ppm E | As ppm E | Au ppm E | B ppm E | Ba ppm E | Be ppm E | Bi ppm E | Cd % WA | Ce ppm E | Co ppm XW | Cr ppm XW | Cs ppm WA | Cu ppm XW | Dy ppm E | Er ppm E | Eu ppm E | F ppm E | Ga ppm E | Gd ppm E | Ge ppm E | Hf ppm E | Hg ppm WA | Ho ppm E | In ppm E | Ir ppm E | La ppm E | Li ppm E | Lu ppm E | Mn ppm E | Mo ppm E | Nb ppm E | Nd ppm E | Ni ppm E | P ppm E | Pb ppm E | Pr ppm E | Rb ppm E | Rh ppm E | Sb ppm E | Sc ppm E | Se ppm WA | Sm ppm E | Sn ppm E | Sr ppm E | Tb ppm E | Th ppm E | Ti ppm E | U ppm E | V ppm E | W ppm E | Y ppm E | Yb ppm E | Zn % XW | Zr ppm E |
|---|---|---

TABLE 4.—*Major, minor, and trace element composition, whole-coal basis, by bed*

Key to symbols:
Method (column heads):
AA - by emission spectrography on ash
NA - by neutron activation analysis of whole coal
WA - by wet chemistry on ash
WC - by wet chemistry on whole coal
XA - by X-ray fluorescence on ash
XW - by X-ray fluorescence on whole coal
(#) - number of samples
G - greater than value shown
I - not determined because of interference
L - less than value shown
N - not detected

Analyses were performed by the U.S. Geological Survey. The analytical program of the U.S. Geological Survey is periodically revised and improved. The values reported represent the best data available at the time of manuscript preparation. Those determinations made by wet chemistry are quantitative; the remaining methods are considered semiquantitative.
The following elements were looked for but not reported: Os, Pd, Pt, Re, Ru, Ta, Te, Tm.
For thorium values see table 7.

County	Township	OGS file no.	Si % XA	Al % XA	Ca % XA	Mg % WA	Na % WA	K % XA	Fe % XA	Ti % XA	Ag ppm AA	As ppm AA	Au ppm AA	B ppm AA	Ba ppm AA	Be ppm AA	Bi ppm AA	Cd ppm AA	Ce ppm NA	Cl ppm WA	Co ppm NA	Cr ppm NA	Cs ppm NA	Dy ppm NA	Er ppm NA	Eu ppm NA	F ppm WA	Ga ppm AA	Gd ppm NA	Ge ppm AA	Hf ppm NA	Hg ppm AA	Ho ppm NA	In ppm NA	Ir ppm NA	La ppm NA	Li ppm AA	Lu ppm NA	Mn ppm AA	Mo ppm AA	Nb ppm AA	Nd ppm NA	Ni ppm AA	P ppm WA	Pb ppm AA	Pr ppm NA	Rb ppm AA	Sb ppm NA	Sc ppm NA	Se ppm NA	Sm ppm NA	Sn ppm AA	Sr ppm AA	Tb ppm NA	Th ppm NA	Ti ppm AA	U ppm NA	V ppm AA	W ppm AA	Y ppm AA	Yb ppm NA	Zn ppm WA	Zr ppm AA
SHARON (NO. 1) COAL																																																																	
Jackson	Jackson Liberty	901 911	2.1 1.9	1.8 0.43	0.093 0.11	0.033 0.066	0.030 0.010	0.14 0.097	1.1 1.9	0.092 0.055	0.52 0.015	0.07 0.016	0.08 4	12 4	1.0L 0.8L	100 250	180 42	42 3.2	3.2	1.5L 0.35	0.05 0.13	32 25	100 100	13 13	21 24	2.4 0.9	0.6 16	190 210	2.9 1.8L	1.4 1.2	0.55 0.55	20L 20L	5.0 6.3	0.6 1.8	12 8.0	4 0.5	0.07 0.07	0.70L 0.58L	0.96 0.58L	1.5 1.2	1.5 1.5	25 18	24 25	32 24	0.2 0.2	30 30	1.0 1.0	2.1 2.1	2.7 2.7	1.9 1.9	14 14	16 16	39 39	610 610	54 54	8.7 8.7	6.8L 6.8L	80L 80L	0.22 0.22	L L	0.4 0.4	5.8 5.8	0.5 0.5	0.30L 0.30L	380 380	0.5 0.5	0.30L 0.30L	0.4 0.4	30 30	1.0 1.0	1.4 1.4	1.1 1.1	8.1 8.1	18 18	24 24
QUAKERTOWN (NO. 2) COAL																																																																						
Vinton Licking	Harrison Bowling Green	1222 1088	5.63 3.0	2.0	0.056 0.086	0.057 0.077	0.010 0.020	0.010L 0.29	0.048 1.0	0.21 0.31	0.021 0.077	0.02 13	11 1	0.3L 0.3L	640 0.6L	18 0.04	26 7	2.0 0.5	0.51 0.04	0.08 7	7 190	190 210	7.8 160	23 6.3	5.3 2.1	0.7 0.3	0.71 0.41	0.15 190	0.55 2.9	0.23 0.6	0.21L 0.2	0.23L 0.2	0.48L 16	4 29	7.0 2.0	0.1 0.1	1.1 0.3	1.2 0.3	1.5 0.3	28 2.5	130 3.6	0.2 0.8	0.5 0.5	0.29L 0.3	0.2 0.2	0.3 0.3	1.2 1.2	3.6 3.6	0.8 0.8	0.06L 0.06L	32L 32L	0.2 0.2	0.10L 0.10L	0.4 0.4	0.4 0.4	0.32L 0.32L	6.4 6.4	0.4 0.4	0.25 0.25	8.0 8.0	35 9.9 35
UPPER MERCER (NO. 3A) COAL																																																																				
Hocking	Washington	886	2.1	1.9	0.070	0.027	0.010	0.063	1.3	0.10	0.04	17	1.1L	53	12	1.5	1.4L	0.11	22	160	11	20	0.3	25	2.4	1.1L	0.43	40	5.6	0.74L	0.74	0.8	0.42	1.6 L	0.74L	1.6 L	12	37	0.2	9.8	1.6	2.4	8.1	14	18	19	7.2L	30L	0.23 L	0.4	4.4	12	2.0	0.21L	22	0.3	0.32L	1.5	15	1.1 L	5.6	0.8	32	19
BEDFORD COAL																																																																			
Noble	Stock	929 929A	12 12	7.0 7.0	0.12 0.12	0.33 0.33	0.24 0.24	1.5 1.5	2.0 2.0	0.37 0.37	0.09 0.09	7 7	4.6L 4.6L	55 55	120 120	3.3 3.3	6.9L 6.9L	0.36 0.36	61 61	B B	15 15	15 5.0	33 33	4.8 4.8	35 35	10 10	1.4 1.4	6.4L 6.4L	0.98 0.98	220 220	15 15	3.1 3.1	2 2	0.92L 0.92L	2.1 2.1	4.3 4.3	0.31 0.31	3.2 3.2	1.3 1.3	4.2 4.2	6.9 6.9	1.5 1.5	39 39	66 66	95 95	0.5 0.5	960 960	16 16	47 47	2.3 2.3	8.9 8.9	28 28	38 38	34 34	180 180	463 463	17 17	38 38	31 31	40 L 40 L	200L 200L	1.3 1.3	L L	0.5 0.5	0.7 0.7	11 11	19 19	4.8 4.8	0.92L 0.92L	140 140	0.7 0.7	0.2 0.2	120 120	0.8 0.8	14 14	1.8 1.8	1.5 1.5	160 160	2.0 2.0	60 60	71 71	4.6 4.6	5.9 5.9	13 13	18 18	2.1 2.1	2.9 2.9	120 120	27 27	65 65
BROOKVILLE (NO. 4) COAL																																																																				
Belmont Monroe Noble Vinton	Washington Seneca Stock Elk	998 938 944 923 881	2.5 3.5 2.1 2.8 1.2	2.1 2.1 1.6 1.6	0.091 0.15 0.13 0.17	0.031 0.061 0.053 0.041	0.030 0.061 0.050 0.030	0.14 0.27 0.23 0.23	1.1 3.9 3.4 3.5	0.097 0.10 0.090 0.063	0.08 0.06 0.06 0.015	2 10 10 26	1.2L 1.9L 1.4L 1.4L	44 42 42 96	50 44 44 37	44 57 57 110	2.9 2.9 2.9 3.0	1.7L 1.9L 1.9L 1.4L	0.12 0.19 0.19 0.46	18 25 25 290	1,400 820 820 4.2	57 15 15 4.2	24 27 27 1.6	0.6 1.8 1.8 1.5	21 18 18 0.7	1.2L 1.9 1.9 0.10	0.06 0.13 0.13 0.96	0.10 0.07 0.07 0.61	1.1 0.92 0.92 2.1	1.2 1.9 1.9 1.7	1.1 1.4 1.4 1.1	1.4 1.9 1.9 1.8	30 14 14 22	21 10 10 9.2	0.2 0.2 0.2 0.2	27 27 27 29	3.6 1.6 1.6 1.9	11 9.6 9.6 9.3L	7.3 7.3 7.3 14	120 100 100 110	48 39 39 19	1.3 0.9 0.9 0.2	0.5 0.5 0.5 0.2	0.35L 0.39L 0.39L 0.41L	1.4 2.8 2.8 1.4	28 37 37 18	0.2 0.2 0.2 0.2	0.35L 0.39L 0.39L 0.41L	1.4 2.8 2.8 1.4	28 37 37 18	0.2 0.2 0.2 0.2	0.35L 0.39L 0.39L 0.41L	1.4 2.8 2.8 1.4	28 37 37 18	39 16 16 8.2	23 17 17 8.5	1.2 L 1.2 L 1.2 L 0.93L	9.9 4.3 4.3 6.2	0.8 0.6 0.6 0.6	57 L 39 L 39 L 10	0.75L 0.62L 0.62L 0.93L	3.3 2.3 2.3 6.2	0.9 0.6 0.6 0.6	7.3 4.3 4.3 10	4.1 2.6 2.6 10	18 16 16 23	39 26 26 66
Jackson	Bloomfield	872 900	1.0 1.5	0.73 0.53	0.13 0.15	0.022 0.023	0.010 0.010	0.054 0.064	1.7 1.7	0.045 0.045	0.04 0.04	11 11	1.0L 1.0L	29 29	15 15	2.0 2.0	1.5L 1.5L	0.06 0.06	10 10	350 350	4.5 4.5	9.1 9.1	0.3 0.3	9.8 9.8	2.8 2.8	1.0L 1.0L	0.38 0.38	170 170	4.4 4.4	2.1 2.1	1.4 1.4	0.4 0.4	0.4 0.4	0.07 0.07	0.92L 0.92L	0.89L 0.89L	0.91 0.91	1.4 1.4	1.2 1.2	4.3L 4.3L	7.0 7.0	110 110	1.9 1.9	0.3 0.3	0.39L 0.39L	2.8 2.8	6.0 6.0	1.4 1.4	0.19L 0.19L	67 67	0.3 0.3	0.03L 0.03L	6.2 6.2	0.06 0.06	10 10	0.93L 0.93L	6.2 6.2	0.60 0.60	10 10	24 24
Lawrence	Franklin Jefferson Madison Washington	899 868 868A 903	2.1 2.2 2.1 2.2	1.2 1.3 1.3 1.3	0.11 0.13 0.13 0.15	0.042 0.046 0.046 0.046	0.010 0.010 0.010 0.010	0.14 0.15 0.15 0.15	4.6 3.3 3.3 3.3	0.064 0.091 0.091 0.087	0.01 0.03 0.03 0.04	4 1.3L 1.3L 12	1.5L 1.6L 1.6L 1.3L	100 63 63 130	23 23 23 37	1.5 1.9 1.9 2.0	1.2L 1.2L 1.2L 0.6L	0.19 0.19 0.19 0.18	12 12 12 12	190 190 190 190	7.1 7.1 7.1 7.1	17 17 17 17	1.8 1.8 1.8 1.8	13 13 13 13	0.8 0.8 0.8 0.8	2.8L 2.8L 2.8L 2.8L	1.5L 1.5L 1.5L 1.5L	0.33 0.33 0.33 0.33	0.88L 0.88L 0.88L 0.88L	0.88L 0.88L 0.88L 0.88L	1.6 1.6 1.6 1.6	1.4 1.4 1.4 1.4	1.2 1.2 1.2 1.2	4.6 4.6 4.6 4.6	6.7 6.7 6.7 6.7	1.4 1.4 1.4 1.4	0.29L 0.29L 0.29L 0.29L	35 35 35 35	0.3 0.3 0.3 0.3	0.04L 0.04L 0.04L 0.04L	6.2 6.2 6.2 6.2	0.06 0.06 0.06 0.06	10 10 10 10	0.93L 0.93L 0.93L 0.93L	6.2 6.2 6.2 6.2	0.60 0.60 0.60 0.60	10 10 10 10	24 24 24 24
Vinton	Brown	870	2.1	1.2	0.11	0.042	0.010	0.14	4.6	0.064	0.01	4	1.5L	100	23	1.5	1.2L	0.19	12	190	7.1	17	1.8	13	0.8	2.8L	1.5L	0.33	0.88L	0.88L	1.6	1.4	1.2	4.6	6.7	1.4	0.29L	35	0.3	0.04L	6.2	0.06	10	0.93L	6.2	0.60	10	24
WINTERS COAL																																																																			
Clinton	Clinton Elk	814 1014	1.3	0.99	0.067 1.9	0.025 0.37	0.010 0.030	0.071 0.087	1.8 2.2	0.043 0.045	0.04 0.04	7 7	0.8L 1.1L	55 100	11 100	1.4 1.4	1.2L 1.2L	0.09 1.0	15 7	200 130	1.8 1.6	8.6 1.6	0.5 1.5	17 4.5	1.8 2.6	2.6 1.1L	1.1L 0.25	0.28 0.23	72 63	5.0 5.3	2.7 2.2	7.2 8.9	0.5 0.4	0.29 0.14	0.07L 0.74L	0.55L 0.74L	0.55L 0.74L	1.2 L 0.74L	6 6	16 16	0.2 0.2	27 27	1.7 1.7	3.7 3.7	0.86L 0.86L	2.2 2.2	24 24	29 29	14 14	17 17	12 12	5.3L 5.3L	16 L 16 L	0.41L 0.41L	0.17 0.17	1.5 1.5	0.29 0.29	0.16L 0.16L	24 24	0.23L 0.23L	1.0 1.0	0.78L 0.78L	7.2 7.2	0.8 0.8	27 27	7.8 7.8
CLARION (NO. 4A) COAL																																																																	
Hocking	Washington	852 852A	0.74 0.74	0.60 0.60	0.14 0.14	0.054 0.054	0.030 0.030	0.096 0.096	1.1 1.1	0.049 0.049	0.015L 0.015L	4 4	0.8L 1.2L	90 62	90 62	17 17	1.1 1.9L	1.1L 1.7L	0.08 0.12	20 20	B B	920 920	7.0 5.3	17 14	0.7 0.5	7.3 12	1.7L 2.7L	0.8L 1.2L	0.41 0.42	110 110	12 12	1.0 1.0	1.1 1.1	0.38 0.38	0.6 0.6	0.13 0.13	0.87L 0.87L	0.87L 0.87L	1.9L 1.9L	1.7 1.7	1.4 1.4	5.9 5.9	0.61 0.61	110 110	1.9 1.9	0.3 0.3	0.39L 0.39L	2.8 2.8	6.0 6.0	1.4 1.4	0.19L 0.19L	67 67	0.3 0.3	0.03L 0.03L	6.2 6.2	0.06 0.06	10 10	0.93L 0.93L	6.2 6.2	0.60 0.60	10 10	24 24
Jackson	Bloomfield	872 900	1.0 1.5	0.73 0.53	0.13 0.15	0.022 0.023	0.010 0.010	0.054 0.064	1.7 1.7	0.045 0.045	0.04 0.04	11 11	1.0L 1.0L	29 29	15 15	2.0 2.0	1.5L 1.5L	0.06 0.06	10 10	350 350	4.5 4.5	9.1 9.1	0.3 0.3	9.8 9.8	2.8 2.8	1.0L 1.0L	0.38 0.38	170 170	4.4 4.4	2.1 2.1	1.4 1.4	0.4 0.4	0.4 0.4	0.07 0.07	0.92L 0.92L	0.89L 0.89L	0.91 0.91	1.4 1.4	1.2 1.2	4.3L 4.3L	7.0 7.0	110 110	1.9 1.9	0.3 0.3	0.39L 0.39L	2.8 2.8	6.0 6.0	1.4 1.4	0.19L 0.19L	67 67	0.3 0.3	0.03L 0.03L	6.2 6.2	0.06 0.06	10 10	0.93L 0.93L	6.2 6.2	0.60 0.60	10 10	24 24
Lawrence	Franklin Jefferson Madison Washington	899 868 868A 903	2.1 2.2 2.1 2.2	1.2 1.3 1.3 1.3	0.11 0.13 0.13 0.15	0.042 0.046 0.046 0.046	0.010 0.010 0.010 0.010	0.14 0.15 0.15 0.15	4.6 3.3 3.3 3.3	0.064 0.091 0.091 0.087	0.01 0.03 0.03 0.04	4 1.3L 1.3L 12	1.5L 1.6L 1.6L 1.3L	100 63 63 130	23 23 23 37	1.5 1.9 1.9 2.0	1.2L 1.2L 1.2L 0.6L	0.19 0.19 0.19 0.18	12 12 12 12	190 190 190 190	7.1 7.1 7.1 7.1	17 17 17 17	1.8 1.8 1.8 1.8	13 13 13 13	0.8 0.8 0.8 0.8	2.8L 2.8L 2.8L 2.8L	1.5L 1.5L 1.5L 1.5L	0.33 0.33 0.33 0.33	0.88L 0.88L 0.88L 0.88L	0.88L 0.88L 0.88L 0.88L	1.6 1.6 1.6 1.6	1.4 1.4 1.4 1.4	1.2 1.2 1.2 1.2	4.6 4.6 4.6 4.6	6.7 6.7 6.7 6.7	1.4 1.4 1.4 1.4	0.29L 0.29L 0.29L 0.29L	35 35 35 35	0.3 0.3 0.3 0.3	0.04L 0.04L 0.04L 0.04L	6.2 6.2 6.2 6.2	0.06 0.06 0.06 0.06	10 10 10 10	0.93L 0.93L 0.93L 0.93L	6.2 6.2 6.2 6.2	0.60 0.60 0.60 0.60	10 10 10 10	24 24 24 24
Vinton	Brown	870	2.1	1.2	0.11	0.042	0.010	0.14	4.6	0.064	0.01	4	1.5L	100	23	1.5	1.2L	0.19	12	190	7.1	17	1.8	13	0.8	2.8L	1.5L	0.33	0.88L	0.88L	1.6	1.4	1.2	4.6	6.7	1.4	0.29L	35	0.3	0.04L	6.2	0.06	10	0.93L	6.2	0.60	10	24
SCHRUGRASS COAL																																																																		
Vinton	Brown Clinton	1024 857	4.0 3.6	1.6 1.5	0.10 0.12	0.12 0.088	0.039 0.020	0.39 0.32	5.4 3.6	0.098 0.094	0.04 0.021	21 21	2.0L 1.7L	100 97	17 43	4.3 5.6	3.1L 2.6L	0.20 0.03	13 15	260 270	4.1 2.8	16 16	2.0 2.0	11 11	4.5L 3.6L	2.0L 1.7L	0.38 0.39	16 20	9.8 6.5	4.3 3.0	5.5 4.2	0.8 0.6	0.15 0.15	0.6 0.6	1.4 L 1.4 L	1.4 L 1.4 L	3.1 L 3.1 L	7 7	6.4 6.4	0.3 0.3	56 56	4.3 4.3	6.5 6.5	0.6 0.6	1,100 1,100	6.4 6.4	0.3 0.3	0.6 0.6	0.8 0.8	0.25 0.25	0.7L 0.7L	3.6 3.6	0.6 0.6	0.41L 0.41L	59 59	0.5 0.5	0.61L 0.61L	1.4 1.4	24 24	2.0 L 2.0 L	1.2 1.2	0.70L 0.70L	1.7 1.7	31 31	0.3 0.3	63 63
LAWRENCE COAL																																																																
Vinton	Clinton	863	2.7	1.9	0.096	0.039	0.030	0.18	6.1	0.064	0.08	29	1.9L	97	76	4.7	2.9L	0.33	47	160	65	18	0.8	18	9.9	5.0	2.0	76	17	8.7	39	0.3	0.10	3.5	1.4 L	2.9 L	13	14	1	28	7.8	2.7	35	160	490	12	13	6.0L	0.43 L	5.7	7.6	3.9	9.9	0.39L	480	2	0.58L	6.9	29	1.9 L	43	6.3	170	15
LOWER ATTSBURG (NO. 5) COAL																																																															
Belmont	Somerset	979 979-1 996 996-1	2.4 2.4 2.6 2.6	1.2 1.2 1.4 1.4	0.32 0.32 0.28 0.28	0.034 0.034 0.28 0.28	0.030 0.030 0.20 0.20	0.27 0.27 1.1 1.1	3.1 3.1 1.6 1.6	0.061 0.061 0.28 0.28	0.04 0.04 0.08 0.08	9 9 5 5	1.3L 1.3L 4.2L 4.2L	49 49 64 64	14 14 64 64	1.0 1.0 2.5 2.5	0.4L 0.4L 0.6L 0.6L	0.10 0.10 0.64 0.64	28 28 37 37	300 300 1,300 1,300	4.2 4.2 4.3 4.3	14 14 48 48	1.0 1.0 5.3 5.3	10 10 23 23	2.9L 2.9L 9.3L 9.3L	1.3L 1.3L 4.3L 4.3L	0.60 0.60 0.60 0.60	200L 200L 230 230	7.2 7.2 12 12	3.1 3.1 6.4 6.4	9.1 9.1 6.8 6.8	0.4 0.4 0.4 0.4	0.14 0.14 0.26 0.26	0.87L 0.87L 0.87L 0.87L	0.87L 0.87L 0.87L 0.87L	1.9 L 1.9 L 1.9 L 1.9 L	1.8 1.8 1.8 1.8	11 11 11 11	0.2 0.2 0.2 0.2	21 21 21 21	3.1 3.1 3.1 3.1	1.7 1.7 1.7 1.7	3.3 3.3 3.3 3.3	14 14 14 14	0.2 0.2 0.2 0.2	0.28L 0.28L 0.28L 0.28L	20 20 20 20	0.3 0.3 0.3 0.3	0.04L 0.04L 0.04L 0.04L	6.2 6.2 6.2 6.2	0.06 0.06 0.06 0.06	10 10 10 10	0.93L 0.93L 0.93L 0.93L	6.2 6.2 6.2 6.2	0.60 0.60 0.60 0.60	10 10 10 10	24 24 24 24
MIDDLE ATTSBURG (NO. 5A) COAL																																																														
Athens	York	877 877A	1.8 1.8	1.5 1.5	0.20 0.20	0.052 0.052	0.030 0.030	0.18 0.18	2.1 2.1	0.075 0.075	0.032 0.032	14 14	1.0L 1.0L	58 58	12 12	2.0 2.0	1.4L 1.4L	0.10 0.10	20 20	300 300	6.9 6.9	13 13	0.5 0.5	15 15	3.3 3.3	1.4L 1.4L	0.43 0.43	110 110	9.7 9.7	3.5 3.5	3.3 3.3	0.6 0.6	0.21 0.21	0.7 0.7	1.5 L 1.5 L	1.5 L 1.5 L	3.4 L 3.4 L	7 7	7.3 7.3	0.3 0.3	110 110	4.3 4.3	7.1 7.1	1.7 1.7	1,100 1,100	7.3 7.3	0.3 0.3	0.7 0.7	0.9 0.9	0.29 0.29	0.8L 0.8L	4.1 4.1	0.7 0.7	0.46L 0.46L	67 67	0.6 0.6	0.07L 0.07L	7.1 7.1	0.07 0.07	11 11	1.0 1.0	7.1 7.1	0.9 0.9	23 23	25 25
Belmont	Somerset Stock	979 979A	2.0 2.0	1.2 1.2	0.080 0.080	0.032 0.032	N N	0.20 0.20	1.3 1.3	0.053 0.053	0.01 0.01	4 4	0.8L 0.8L	61 61	79 79	2.2 2.2	1.4L 1.4L	0.16 0.16	12 12	1,000 1,000	3.3 3.3	11 11	0.4 0.4	10 10	2.3L 2.3L	1.0L 1.0L	0.24 0.24	44 44	5.6 5.6	1.5 1.5	1.1 1.1	0.3 0.3	0.17 0.17	0.7L 0.7L	0.67L 0.67L	0.67L 0.67L	1.6 L 1.6 L	3 3	6.8 6.8	0.2 0.2	45 45	2.3 2.3	4.5 4.5	1.1 1.1	1,100 1,100	3.3 3.3	0.2 0.2	0.3 0.3	0.4 0.4	0.12 0.12	0.3L 0.3L	1.8 1.8	0.3 0.3	0.19L 0.19L	28 28	0.2 0.2	0.03L 0.03L	3.3 3.3	0.03 0.03	5.1 5.1	0.5 0.5	3.3 3.3	0.4 0.4	11 11	11 11
Hocking	Starr	887	2.3	1.5	0.14	0.045	0.010	0.19	3.1	0.049	0.03	7	1.1L	59	13	1.6	1.4L	0.10	16	1,100	3.3	11	0.4	10	2.3L	1.0L	0.24	44	5.6	1.5	1.1	0.3	0.17	0.7L	0.67L	0.67L	1.6 L	3	6.8	0.2	45	2.3	4.5	1.1	1,100	3.3	0.2	0.3	0.4	0.12	0.3L	1.8	0.3	0.19L	28	0.2	0.03L	3.3	0.03	5.1	0.5	3.3	0.4	11	11
Gallia

TABLE 5.—Major and minor oxide and trace element composition of the laboratory ash, by county

Key to symbols:
Method (column heads):
E - by emission spectography on ash
NA - by neutron activation on whole coal
WA - by wet chemistry on ash
XA - by X-ray fluorescence on ash
XW - by X-ray fluorescence on whole coal
B - no data available
G - greater than value shown
H - not determined due to interference
L - less than value shown
N - not detected

Analyses were performed by the U.S. Geological Survey. The coals were ashed at 525°C for major, minor, and trace element analysis. Those values may not agree exactly with ash values in standard proximate analysis. The analytical program of the U.S. Geological Survey is periodically revised and improved. The values reported represent the best data available at the time of manuscript preparation. Those determinations made by wet chemistry are quantitative; the remainder methods are considered semiquantitative. "The precision and accuracy of the computer spectographic values (E) are within one bracket or 68% confidence level and two brackets at 95% confidence level. The bracket is logarithmically defined as 468, 332, 237, 170, 120, 85, 60, 43, 30, 21, 15, 11, 7.5, 5.3, 3.8, 2.7, 1.9, 1.3, 0.95, 0.67, 0.48, 0.34, 0.24, 0.17, 0.12, 0.085, 0.060, 0.043, 0.030, 0.021, 0.015, 0.011, 0.0075, 0.0053, 0.0038, 0.0027, 0.0019, 0.0013, 0.00095, 0.00067, 0.00048, 0.00034, 0.00024, 0.00017, 0.00012, 0.000085, 0.000060, 0.000043, 0.000030, 0.000021, 0.000015, 0.000011, 0.0000075, 0.0000053, 0.0000038, 0.0000027, 0.0000019, 0.0000013, 0.00000095, 0.00000067, 0.00000048, 0.00000034, 0.00000024, 0.00000017, 0.00000012, 0.000000085, 0.000000060, 0.000000043, 0.000000030, 0.000000021, 0.000000015, 0.000000011, 0.0000000075, 0.0000000053, 0.0000000038, 0.0000000027, 0.0000000019, 0.0000000013, 0.00000000095, 0.00000000067, 0.00000000048, 0.00000000034, 0.00000000024, 0.00000000017, 0.00000000012, 0.000000000085, 0.000000000060, 0.000000000043, 0.000000000030, 0.000000000021, 0.000000000015, 0.000000000011, 0.0000000000075, 0.0000000000053, 0.0000000000038, 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TABLE 6.—Major and minor oxide and trace element composition of the laboratory ash, by bed

Key to symbols:
Method (column heads):
E - by emission spectrography on ash
NA - by neutron activation on whole coal
WA - by wet chemistry on ash
XA - by X-ray fluorescence on ash
XW - by X-ray fluorescence on whole coal
B - no data available
G - greater than value shown
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N - not detected

Analyses were performed by the U.S. Geological Survey. The coals were ashed at 525°C for major, minor, and trace element analysis. These values may not agree exactly with ash values in standard proximate analysis. The analytical program of the U.S. Geological Survey is periodically revised and improved. The values reported represent the best data available at the time of manuscript preparation. Those determinations made by wet chemical methods are generally considered to be more precise than determinations by other methods. Precision of the computer spectrographic analysis (E) are within an order of 68% confidence level and two brackets at 95% confidence level. The bracket is logarithmically defined as ×/÷, 33% of value reported" (U.S. Geological Survey, written commun., 1975). Where figures is percentage of total coal, 5G, figure shown only shows sulfur retained by the sample on ashing. Values for S in the whole coal should be taken from the proximate-ultimate analyses (tables 4 and 5).

The emission spectrographic analysis of the ash was checked for the following elements. All samples contained fewer ppm than the value given for the element or no data were available.

Os - 22 ppm (some at 46 ppm)		Ru - 3.2 ppm	
Pd - 1.5 ppm		Rh - 4.6 ppm	
Pt - 10 ppm		Te - 46 ppm	
Re - 10 ppm		Tm - 5 ppm	

County	Township	OCS Plate No.	Ash %	SiO2 %	Al2O3 %	CaO %	MgO %	Na2O %	K2O %	Fe2O3 %	TiO2 %	P2O5 %	SO3 %	Ag ppm	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Cd ppm	Ce ppm	Co ppm	Cr ppm	Cs ppm	Cu ppm	Dy ppm	Er ppm	Eu ppm	Ga ppm	Gd ppm	Ge ppm	Hf ppm	Ho ppm	In ppm	Ir ppm	La ppm	Li ppm	Mn ppm	Mo ppm	Nb ppm	Nd ppm	Ni ppm	Pb ppm	Pr ppm	Rb ppm	Rh ppm	Ru ppm	Sc ppm	Sm ppm	Sn ppm	Sr ppm	Ta ppm	Tb ppm	Th ppm	Tl ppm	U ppm	V ppm	W ppm	Y ppm	Yb ppm	Zn ppm	Zr ppm
			WA	XA	XA	XA	XA	XA	XA	XA	XA	XA	XW	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
SHARON (NO. 1) COAL																																																																	
Jackson	Jackson	901	10.0	46	34	1.3	0.5	0.15	1.1	7.5	1.3	1.4	3.0	0.60	0.6	10L	1,000	1,800	32	15L	0.49	320	100	200	6.0	160	29	10L	6.2	50	21	18	8.0	7L	7L	15L	250	240	2	360	53	15	90	68L	800L	25L	37	30	3	3,800	5.0	68	4.0	300	10L	200	11	81	180	200
	Liberty	1022	5.1	49	29	2.4	0.91	0.70	0.20	2.6	1.1	1.5	0.24	3.0	0.5	10L	1,000	420	62	15L	2.4	0.32	190	170	11	130	27	10L	3.1	64	33	62	8.3	7L	7L	15L	130	220	2	160	38	28	180	98	250	95	68L	840L	2.0L	61	59	25	2L	1,000	930	2.3	68	2.0	170	2.2L	59	27	290	270
QUAKERTOWN (NO. 2) COAL																																																																	
Vinton	Harrison	1022	5.2	43	33	2.9	0.91	0.71	0.88	0.42L	1.8	1.5	0.20	3.0	0.5	10L	20,000	420	22	15L	2.4	0.32	220	190	76	170	11	130	9.4	11	310	221	27	10L	4.7	64	33	62	8.3	7L	7L	15L	130	220	2	160	38	28	180	98	250	95	68L	820L	2.0L	61	59	25	2L	1,000	930	2.3	68	2.0	170	2.2L	59	27	290	270
Licking	Bowling Green	1088	13.3	49	29	0.24	0.91	0.70	0.20	2.6	1.1	1.5	0.24	3.0	0.5	10L	1,000	1,400	32	15L	2.4	0.32	190	170	11	130	27	10L	3.1	64	33	62	8.3	7L	7L	15L	130	220	2	160	38	28	180	98	250	95	68L	840L	2.0L	61	59	25	2L	1,000	930	2.3	68	2.0	170	2.2L	59	27	290	270
UPPER MERCER (NO. 3) COAL																																																																
Hocking	Washington	886	10.6	42	33	0.92	0.43	0.13	0.71	18	1.6	0.04	1.1	0.4	10L	500	110	14	15L	1.0	210	100	190	2.8	240	23	10L	4.1	53	7L	7	7.5	15L	7L	15L	110	350	2	83	15	23	76	130	180	68L	280L	2.2L	42	19	2L	210	2.8	3L	14	140	10L	53	7.5	300	180
BEDFORD COAL																																																																
Noble	Stock	929	4.8	54	29	0.37	1.2	0.71	4.0	6.3	1.0	0.09	0.78	0.2	10L	120	270	5	15L	0.78	130	33	120	10	77	22L	10L	2.1	33	7	2L	4.6	7L	7L	15L	72	100	0.9	210	2L	5	41	48	84	38	68L	220L	2.2L	24	9.4	2	310	1.5	3L	4.4	130	10L	28	4.6	240	60
	Washington	929	4.8	54	29	0.37	1.2	0.71	4.0	6.3	1.0	0.09	0.78	0.2	10L	120	270	5	15L	0.78	130	33	120	10	77	22L	10L	2.1	33	7	2L	4.6	7L	7L	15L	72	100	0.9	210	2L	5	41	48	84	38	68L	220L	2.2L	24	9.4	2	310	1.5	3L	4.4	130	10L	28	4.6	240	60
BROOKVILLE (NO. 4) COAL																																																																
Belmont	Washington	1031	11.6	47	30	1.1	0.45	0.35	1.5	14	2.9	0.04	1.3	0.7	10L	380	420	20	15L	1.0	160	32	130	6.2	180	22L	10L	2.5	42	9	3.5	11	7L	7L	15L	86	280	0.9	180	2L	5	92	83	46	68L	520L	2.2L	60	25	2L	280	1.7	3L	12	300	10L	85	6.9	110	340
Monroe	Seneca	938	19.0	39	21	1.3	0.38	0.34	0.66	5.6	0.6	0.03	2.5	0.4	10L	260	230	15	15L	0.51	130	34	100	6.6	91	22L	10L	2.5	42	20	9	5.0	7L	7L	15L	320L	61	130	32	12	81	56	63	68L	330L	2.2L	56	12	2L	280	1.7	3L	6.1	130	10L	61	5.5	74	170
Noble	Mahlon	923	18.3	35	17	1.3	0.38	0.32	1.5	43	1.0	0.05	2.0	0.4	10L	260	230	15	15L	0.51	130	34	100	6.6	91	22L	10L	2.5	42	20	9	5.0	7L	7L	15L	320L	61	130	32	12	81	56	63	68L	330L	2.2L	56	12	2L	280	1.7	3L	6.1	130	10L	61	5.5	74	170
	Elk	923	18.3	35	17	1.3	0.38	0.32	1.5	43	1.0	0.05	2.0	0.4	10L	260	230	15	15L	0.51	130	34	100	6.6	91	22L	10L	2.5	42	20	9	5.0	7L	7L	15L	320L	61	130	32	12	81	56	63	68L	330L	2.2L	56	12	2L	280	1.7	3L	6.1	130	10L	61	5.5	74	170
	Richland	1014	9.1	37	30	1.3	0.36	0.15	0.63	24	1.2	0.03	1.5	0.5	10L	180	210	25	15L	2.5	240	58	190	2.3	150	34	12	4.6	59	24	5.7	7.5	7L	7L	15L	120	360	2	79	42	45	170	110	150L	440L	2.2L	51	37	2L	490	3.3	3L	11	380	10L	130	13	290	400
Vinton	Elk	1029	12.9	36	19	1.4	0.53	0.31	1.9	41	0.70	0.17	2.3	0.5	10L	1,000	290	42	15L	6.2	85	93	81	11	160	22L	10L	1.5	93	26	95	3.9	7L	7L	320L	39	70	2	130	150	14	65	180	28	68L	160	2.2L	28	12	2L	580	1.6	3L	62	160	10L	130	7.8	880	270
	WINTERS COAL																																																														
Vinton	Clinton	684	7.8	37	24	1.2	0.43	0.17	1.1	33	0.92	0.05	1.7	0.3	10L	700	180	26	15L	1.2	190	230	110	6.4	220	23	10L	4.7	64	34	92	6.4	7L	7L	15L	77	210	1.1	66	110	310	160	68L	510L	2.2L	31	22	2L	310	5.1	3L	13	130	10L	92	10	350	100
	Elk	1013	10.5	44	28	1.4	0.98	0.80	0.30	0.20L	1.3	0.83	0.11	1.5	0.5	10L	1,000	210	30	15L	2.9	120	180	120	10	110	33	10L	4.5	80	26	41	4.5	7L	7L	15L	60	210	1.3	100	43	20	110	710	220	68L	450L	2.2L	54	22	2L	420	4.3	3L	13	130	10L	120	13	1,700	180
CLARION (NO. 4A) COAL																																																														
Hocking	Washington	852	12.8	51	25	2.6	0.38	0.36	0.37	53	0.39	0.60	4.9	0.4	10L	1,200	230	15	15L	1.0	270	93	230	9.3	97	22L	10L	5.5	42	21	5	8.0	7L	7L	15L	170	79	1	670	40	10	72	140	30	68L	480L	2.2L	60	25	H	1,700	4.0	3L	16	76	10L	44	12	97	54
	Stock	1023	7.4	51	29	1.1	0.45	0.35	1.5	14	2.9	0.04	1.3	0.7	10L	380	420	20	15L	1.0	160	32	130	6.2	180	22L	10L	2.5	42	9	3.5	11	7L	7L	15L	86	280	0.9	180	2L	5	92	83	46	68L	520L	2.2L	60	25	2L	280	1.7	3L	12	300	10L	85	6.9	110	340
Jackson	Bloomfield	872	9.8	52	32	1.4	0.38	0.14	0.66	54	0.66	0.04	2.5	0.5	10L	360	190	25	15L	2.5	240	58	190	2.3	150	34	12	4.6	59	24	5.7	7.5	7L	7L	15L	120	360	2	79	42	45	170	110	150L	440L	2.2L	51	37	2L	490	3.3	3L	11	380	10L	130	13	290	400
	Franklin	899	14.5	31	15	1.1	0.48	0.09	1.2	45	0.74	0.10	1.2	0.1	10L	300	160	17	15L	1.5	83	49	91	6.9	66	22L	10L	2.2	44	17	29	4.1	7L	7L	15L	41	83	0.7	170	17	7	46L	63	28	68L	550L	2.2L	23	9.7	2L	240	1.4	3L	4.1	79	10L	35	5.5	70	72
	Bethlehem	868	12.6	37	19	1.4	0.61	0.11	1.4	37	0.92	0.21	2.2	0.2	10L	500	430	15	15L	1.5	95	68	140	6.3	95	22L	10L	2.6	37	15	5.6	7.5	7L	7L	15L	54	210	2.7	130	15	9	49	83	46	68L	460L	2.2L	31	13	2L	260	2.4	3L	5.3	130	10L	53	7.6	140	150
Lawrence	Washington	903	13.2	35	18	1.8	0.58	0.30	1.4	36	1.1	0.10	2.1	0.3	10L	400	400	17	15L	1.4	150	68	150	7.6	110	22L	10L	3.4	58	17	30	6.1	7L	7L	15L	76	72	2	130	73	15	130	74	68L	610L	2.2L	27	17	2L	680	3.0	3L	13	130	10L	73	7.6	140	150
	Brown	1032	13.2	32	17	1.4	0.23	0.33	0.35	40	0.61	0.38	1.8	0.5	10L	1,000	320	20	15L	1.7	250	52	160	7.3	140	22L	10L	3.6	50	20	7.2	9.0	7L	7L	15L	110	210	2.1	150	20	11	64	110	46	68L	550L	2.2L	40	16	2L	360	2.8	3L	7.4	150	10L	93	8.7	180	200
	Clinton	856	10.5	39	21	1.4	0.38	0.46	0.58	33	0.68	0.11	3.4	0.3	10L	260	260	15	15L	0.84	190	80	210	3.4	110	22L	10L	3.6	97	28	4.0	7.5	7L	7L	15L	60	210	0.9	160	12	9	46L	230	55	68L	340L	2.2L	41	15	2L	760	2.6	3L	7.4	180	10L	98	6.8	140	160
	Elk	852	11.4	37	22	1.3	0.48	0.66	0.58	23	0.68	0.11	3.4	0.3	10L	260	260	15	15L	0.84	190	80	210	3.4	110	22L	10L	3.6	97	28	4.0	7.5	7L	7L	15L	60	210	0.9	160	12	9	46L	230	55	68L	340L	2.2L	41	15	2L	760	2.6	3L	7.4	180	10L	98	6.8	140	160
	SCHOGRASS COAL																																																													
Vinton	Schograss	1024	20.4	42	15	0.70	0.95	0.26	2.3	8	0.80	0.06	1.1	0.2	10L	500	280	20	15L	1.2	240	70	78	9.8	56	22L	10L	1.9	48	21	27	3.9	7L	7L	15L	34	31	0.9	210	32	22	49	68	41	68L	170	2.2L	21	9.9	2L	280	2.5	3L	12	96	10L	83	8.3	120	190
	Elk	1017	17.2	43	20	0.91	0.83	0.21	2.4	10	0.71	0.08	1.8	0.2	10L	500	280	20	15L	1.1	240	67	87	16	91	15	56	22L	10L	1.7	36	7L	7L	15L	40	190	1	200	23	28	130	110	68L	380L	2.2L	29	11	2L	420	4.3	3L	11	130	10L	99	8.3	150	210
	LAWRENCE COAL																																																													
Lawrence	Clinton	863	19.4	30	19	0.69	0.33	0.21	1.1	45	0.55	0.38	1.2	0.4	10L	500	390	24	15L	1.7	240	330	93	4.1	95	51	26	10	88	45	200	2.6	7L	7L	15L	72	5	110	40	14	77	840	61	68L	310L	2.2L	39	31	2L	2,500	12	3L	36	150	10L	220	32	870	78
	LOWER SUNDAY COAL (NO. 5) COAL																																																													
Belmont	Somerset	977	13.0	37	18	3.4	0.43	0.31	1.1	30	0.78	B	2.5	0.3	10L	380	110	15	15L	0.83	140	32	110	7.7	78	22L	10L	3.2	37	17	65	4.6	7L	7L	15L	62	140	2	320	35	13	63	90	62	150L	310L	2.2L	25	16	2L	230	2.3	3L	18	110	10L	72	9.2	140	140
	Washington	966	9.8	45	23	2.4	0.91	0.70	0.20	2.6	1.1	1.5	0.24	3.0	0.5	10L	1,000	420	62	15L	2.4	0.32	190	170	11	130	27	10L	3.1	64	33	62	8.3	7L	7L	15L	130	220	2	160	38	28	180	98	250	95	68L	840L	2.0L	61	59	25	2L	1,000	930	2.3	68	2.0	170	2.2L	59	27	290	270
	Warren	986	12.8	43	25	1.5	0.38	0.60	0.60	24	0.68	0.22	3.0	0.5	10L	260	260	15	15L	1.5	87	33	110	6.2	110	22L	10L	2.5	42	20	9	5.0	7L	7L	15L	110	40	1	110	18	9	46L	110	46	68L	310L	2.2L	40	14	2L	280	1.7	3L	6.1	130	10L	61	5.5	74	170
	Washington	962	4.5	45	29	0.37	1.2	0.71	4.0	6.3	1.0	0.09	0.78	0.2	10L	120	270	5	15L	0.78	130	33	120	10	77	22L	10L	2.1	33	7	2L	4.6	7L	7L	15L	72	100	0.9	210	2L	5	41	48	84	38	68L	220L	2.2L	24	9.4	2	310	1.5	3L	4.4	130	10L	28	4.6	240	60
Coshocton	Wayne	970	14.1	70	7.7	1.7	0.11	0.28	0.25	16	0.23	B	1.1	0.3	10L	560	280	14	15L	0.80	28	16	49	0.7	41	22L	10L	0.64	16	15L	42	0.7	15L	7L	15L	14	47	0.7	150	27	9	46L	110	23	68L	210L	2.2L	8.5	2.8	H	590	1.3	3L	9.2	80	10L	38	4.3	73	87
	Bethlehem	1033	12.1	36	16	1.5	0.95	0.38	0.26	20	0.70	0.57	0.92	0.4	10L	500	190	27	15L	0.52	83	29	93	4.1	43	22L	10L	1.6	29	15L	16	2.5	7L	7L	15L	33	76	0.8	420	100	18	39	180	140	68L	460L	2.2L	18	6.9	H	590	1.7	3L	5.3	110	10L	58	5.8	97	140
	Lafayette	1123	12.1	36	16	1.5	0.95	0.38	0.26	20	0.70	0.57	0.92	0.4	10L	500	190	27	15L	0.52	83	29	93	4.1	43	22L	10L	1.6	29	15L	16	2.5	7L	7L	15L	33	76	0.8	420	100	18	39	180	140	68L	460L	2.2L	18	6.9	H	590	1.7	3L	5.3	110	10L	58	5.8	97	140
	Mill Creek	1120	12.4	33	14	1.0	0.32	0.33	0.74	32	0.87	0.04L	1.8	0.4	10L	500	210	33	10L	1.5	320	45	170	4.8	230	46L	66L	6.0	66	33	64	5.6	7L	7L	15L	150	220	2	150	70	22	190	360	77	68L	240L	2.2L	40	40	H	370	6.5	3L	15	400	10L	150	14	380	300
	Oxford	1116	15.1	36	16	1.5	0.46	0.73	0.58	22	0.68	0.55	0.23	1.2	0.3	10L	500	210	33	10L	1.5	320	45	170	4.8	230	46L	66L	6.0	66	33	64	5.6	7L	7L	15L	150	220	2	150	70	22	190	360	77	68L	240L	2.2L	40	40	H	370	6.5	3L	15	400	10L	150	14	380	300
Guernsey	Millwood	967	20.1	47	19	2.4	1.1	0.54	2.2	21	1.0	B	2.6	0.4	10L	320	230	12	15L	1.0	100	32	110	9.0	65	22L	10L	2.8	33	13	49	6.0	7L	7L	15L	45	120	1	160	58	10	49	94	61	68L	250L	2.2L	31	15	2L	340	3.2	3L	10	100	10L	55	8.0	190	130
Hocking	Stock	1030	11.6	46	25	1.1	0.45	0.35	1.5	14	2.9	0.04	1.3	0.7	10L	380	420	20	15L	1.0	160	32	130	6.2	180	22L	10L	2.5	42	9	3.5	11	7L	7L	15L	86	280	0.9	180	2L	5	92	83	46	68L	520L	2.2L	60	25	2L	280	1.7	3L	12	300	10L	85	6.9	110	340
	Stair	896	15.4	26	17	0.52	0.50	0.09	0.27	50	0.46	0.05	0.50	0.4	10L	300	90	15	15L	0.63	110	71	71	3.5	76	22L	10L	1.3	25	15L	31	2.5	7L	7L	15L	39	93	2	42	10	10	60	100	52	68L	140L	2.2L	15	7.1	H	280	1.3	3L	3.6	70	10L	39	4.3	69	87
Jackson	Bloomfield	859	19.8	39	22	0.79	0.53	0.07	1.9	33	0.61	0.11	1.1	0.2	10L	300	210	22	15L	1.6	110	49	150	5.6	150	24	10L	4.2	51	27	33	4.5	7L	7L	15L	56	86	1	200	21	10	73	130	61	68L	200L	2.2L	31	13	2L	360	2.9	3L	9.1	110	10L	77	7.1	110	190
	Franklin	898	14.5	40	22	1.1	0.48	0.09	1.2	45	0.74	0.10	1.2	0.1	10L	300	160	17	15L	1.5	83	49	91	6.9	66	22L	10L	2.2	44	17	29	4.1	7L	7L	15L	41	83	0.7	170	17	7	46L	63	28	68L	550L	2.2L	23	9.7	2L	240	1.4	3L	4.1	79	10L	35	5.5	70	72
Lawrence	Washington	902	7.4	46	24	1.3	0.63	0.18	1.9	41	1.4	0.11	1.7	0.5	10L	500	280	25	15L	1.2	190	68	140	6.3	95	22L	10L	2.6	37	15	5.6	7.5	7L	7L	15L	54	210	2.7	130	15	9	49	83	46	68L	460L	2.2L	31	13	2L	260	2.4	3L	5.3	130	10L	53	7.6	140	150
Monroe	Green	999	9.9	35	14	1.7	0.40	0.27	0.78	46	0.94	0.74	2.6	0.2	10L	360	480	20	15L	0.92	110	32	82	5.0	59	31	13	3.2	33	20	60	3.0	7L	7L	320L	53	84	2	400	44	33	46L	68	18	68L	400L	2.2L	19	9.1	H	720	3.0	3L	7.1	110	10L	130	14	300	280
	Seneca	1004	9.9	35	14	1.7	0.40	0.27	0.78	46	0.94	0.74	2.6	0.2	10L	360	480	20	15L	0.92	110	32	82	5.0	59	31	13	3.2	33	20	60	3.0	7L	7L	320L	53	84	2	400	44	33	46L	68	18	68L	400L	2.2L	19	9.1	H	720	3.0	3L	7.1	110	10L	130	14	300	280
Summit	Summit	933	32.2	50	23	0.46	0.73	0.38	2.4	18	0.63	0.08	2.4	0.1	10L	1,000	460	6	15L	0.25	110	15	100	1.7	110	22L	10L	1.2	25	15L	7	1.5	7L	7L	15L	110	40	1	110	18	9	46L	110	46	68L	310L	2.2L	40	14	2L	280	1.7	3L	6.1	130	10L	61	5.5	74	170
	MIDDLE KITTANNING (NO. 6) COAL																																																												
Athens	Cook	873	6.3	46	28	1.8	0.46	0.16	1.2	14	1.2	0.7	1.2	0.2	10L	700	480	19	15L	1.0	140	83	140	3.6	110	22L	10L	1.5	34	13	20	6.0	7L	7L	15L	110	230	1	120	9	3	73	130	73	68L	360L	2.2L	16	14	2L	1,400	6.0	3L	11	110	10L	58	7.2	140	170
	Elk	873	10.1	38	31	4.7	0.65	0.13	0.94	15	1.2	0.5	3.6	0.1	10L	700	480	9	15L	0.40	230	29	100	1.0	92	22L	10L	3.0	44	13	20	5.9	7L	7L	15L	140	280	1	90	3	3	46L	110	46	68L	310L	2.2L	40	14	2L	1,600	2.0	3L	11	110	10L	61	5.5	74	170
	Stock	1027	11.6	46	25	1.1	0.45	0.35	1.5	14	2.9	0.04	1.3	0.7	10L	380	420	20	15L	1.0	160	32	130	6.2	180	22L	10L	2.5	42	9	3.5	11	7L	7L	15L	86	280	0.9	180	2L	5	92	83	46	68L	520L	2.2L	60	25	2L	280	1.7	3L	12	300	10L	85	6.9	110	340
Belmont	Somerset	1031	11.6	47	30	1.1	0.45	0.35	1.5	14	2.9	0.04	1.3	0.7	10L	380	420	20	15L	1.0

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